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ABERRATIONAL AND SUBSPECIFIC FORMS OF BRITISH LEPIDOPTERA

BY

A. L. GOODSON & D. K. READ.

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Volume 9

Noctuidae Part 3

406572-708

Aberrational Forms

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Noct. 215.
p. I.

Euplexia Stenhaus.

Lucipara Linn. Syst. Nat. 1758. Ed. 10. p. 518.
subsp. britannica Turner. Ent. Rec. 1943. 55. n. 89. (miscic Britannica)
" " " " p. 102 spelling corrected.

subsp. britannica Turner. -- According to Turner the British form is on the whole lighter in coloration and marking than the Continental ones. See details in long description.

aberrational forms etc.

ab. conspicua Turner. Ent. Rec. 1943. 55. n. 90.

In the yellowish-brown subterminal area there is a dark blackish red-brown line on the outer edge, this is bordered outwardly by a fine light brown line. In the upper costal portion of this subterminal area there are three very clear white spots, the reniform is large and conspicuously light.

We have the type in the R.C.K. collection, the three white spots mentioned are merely the paler than usual upper part of the submedian area being divided by the darker veins.

ab. maculata Lempke. Tijdschr. Ent. 1942. 85. p. 127.

The reniform unicolorous whitish-yellow or white, without dark centre.

ab. obsoleta Lempke. Tijdschr. Ent. 1942. 85. p. 127.

Reniform stigma wholly filled with dark, hardly contrasting.

ab. flavescens Lempke. Tijdschr. Ent. 1942. 85. p. 127.

Submarginal band pale, yellowish, about the same colour as the reniform; the hindwings as a rule also a little paler.

ab. pallida Lempke. Tijdschr. Ent. 1942. 85. p. 127.

The whole insect paler; head, thorax and central area with feeble lilac tint; hindwings very pale grey, unicolorous.

ab. clausa Lempke. Tijdschr. Ent. 1942. 85. n. 127. (description vol. 82. p. 197)

First and second transverse lines join at the inner margin.

ab. semiconfluens Lempke. Tijdschr. Ent. 1942. 85. p. 127. (description vol. 82 p. 197)

The reniform and orbicular united by a double line.

ab. ascripta Gozmany. Fragm. Faun. Hung. 1947. 1. p. 56.

Doct. 216.
P. I.

Phlogophora Ochs.

meticulosa Linn. Syst. Nat. 1758. Ed. 10. p. 515.
= pallida Tutt. Brit. Doct. 1892. 3. p. 63.

aberrational forms etc.

meticulosa Linn. typical form --- wings pale, the forewings flesh coloured at the base and with a fuscous triangle.

Tutt makes this the red form, which, however, has a red triangle, not fuscous as Linnaeus states. Tutt's pallida is therefore the same as the Linnaeus type.

ab. suffusa Warren. Seitz. 1911. 3. p. 190.

The whole forewing is tinged with reddish, partially obscuring the usual olive-green tints. There is no ground whatever for supposing that the red-suffused form is the typical form of Linnaeus and Haworth.

ab. roseobrunnea Warren. Seitz. 1911. 3. p. 190.

The central triangle rich red-brown, tinged with fulvous, the whole wing reddish-tinged and the green shades all strongly mixed with reddish, the metathorax and dorsal tufts also being deep fulvous instead of green.

ab. ignicula Dannehl. Ent. Z. 1926. 19. p. 168.

In general agrees with roseobrunnea Warren but in addition the last remnant of grey-green or green-olive is missing. The ground colour red-orange, hardly noticeably toned olive-grey (in the outer basal area). The markings, especially the triangles are not appreciably darker.

This must be more extreme than roseobrunnea if the triangles are not very much darker than the ground colour.

ab. grisea Hackray. Lamb. 1938. 38. p. 201.

The green-olive parts have taken on a remarkable greyish tone, the rosy tints are equally duller.

ab. viridescens Lempke. Tijdschr. Ent. 1942. 85. p. 125.

Forewings without any red or rosy tint, markings of a beautiful dark green.

ab. fumosa Cockayne. Ent. Rec. 1951. 60. p. 158 & 160. pl. 5. f. 3.

All the pale parts of the forewing and the anterior part of the thorax are slightly smoky, giving the aberration a peculiar dull appearance.

ab. extensa Chalmers-Hunt. Entom. 1961. 94. p. 282. pl. 7 f. 1.

The dark colouring of the central band of the forewing is extended outwardly to occupy the triangular area proximal to the elbowed line.

ab. westi Chalmers-Hunt. Ent. Rec. 1961. 94. p. 282. pl. 7 f. 9.

On the forewing the antemedian line runs from the costa, more or less vertically, to just short of the inner margin, instead of at an angle to join the postmedian; it is then continued horizontally above the inner margin for approximately 6 mm., thence turning at right angles upwards towards the costa and in doing so forms a rough square, in place of the normal triangle. In the subapical region there is a rather large roundish blotch of pale yellowish-buff in which the markings are obliterated.

Det. 216.
n. 2.

anticleulosa Linn. *Continuo*.

ab. *reducta* Lempke. Tijdschr. Ent. 1942. 85. p. 123.
The dark central band does not reach the inner margin.

ab. *trapezina* Lempke. Tijdschr. Ent. 1942. 85. p. 124.
The central band strongly broadened at the inner margin.

ab. *effusa* Lempke. Tijdschr. Ent. 1942. 85. p. 123.
The markings of the forewings washed out.

ab. *minor* Cabeau. Rev. Soc. Ent. Jan. 1925. 25. p. 7.
Very small, 40 mm.

ab. *flavescens* Saundby. Ent. Rec. 1963. 75. p. 85.
The ground colour of the forewings pale yellowish-white, the usual markings present but pale clear yellowish-green instead of the usual pinkish or olive-brown. Outer margin and short bar below reniform stigma dark grey, almost black, in sharp contrast with the other markings. Hindwings paler than normal with usual markings showing up more clearly. The thorax and abdomen pale yellowish-white, the same as the ground colour of the forewings.

Doct. 17. .
p. I.

Typa Duponchel.

rectilinea Esper. Eur. Schm. 1788. 4. (2). p. 37. pl. 127 f. I.

aberrational forms etc.

rectilinea Esper ---- typical form-- grey, with prominent black horizontal streak above the inner margin. The middle area light grey shaded with ochre-yellow, blackish on the costa.

There is no mention of the median area being filled with dark to form a band so it would seem to be the light form, not the dark banded one named *ab. virgata* Tutt. Lempke makes this *virgata* a synonym of the type, for no apparent reason.

ab. semivirgata Tutt. Brit. Doct. 1892. 3. p. 96.

Ground colour as in the type but with the central area below the stigma, including the black streak, banded as far as the inner margin.

ab. virgata Tutt. Brit. Doct. 1894. 3. p. 56.

With the central area banded from costa to inner margin, deep reddish-brown in colour. This and the preceding are the commoner forms in Britain.

ab. grisea Spuler. Schm. Eur. 1905. I. p. 207.

Without the ochre-yellow or brownish tints.

ab. juncta Lempke. Tijdschr. Ent. 1942. 85. p. 126. (Description vol. 82. p. 197)

The reniform and orbicular join up but remain distinct.

ab. semiconfluens Lempke. Tijdschr. Ent. 1942. 85. p. 126. (Description vol. 82. p. 197)

Instead of joining the stigma are united by a double line.

Noct. 218.
v. I.

Thalpophila Hbn.

- matura Hufnagel. Berlin Mag. 1766. 3. p. 414.
- = texta Esner. Eur. Schnett. 1787. 4. (1). n. 185. pl. 108 f. 5-6.
- = cythorea Fabr. Ent. Syst. Emend. 1794. 3. (2). n. 57.
- = connexa Hubner. Samml. Eur. Schnett. 1800-03. pl. 23 f. 109.
- = prospicua Haworth. Lep. Brit. 1809. n. 160.

aberrational forms etc.

matura Hufn. typical form -- it is almost impossible to separate the various forms (given as synonyms above) into aberrational forms as some authors have done. The prospicua of Haworth was an obvious error for "connexa" since he cites Hubner's pl. 23. f. 108, which has green forewings and does not occur in Britain, but is next to connexa on the plate. Haworth obviously meant to refer to connexa, from his description of it.

ab. pallida Rebel. Rev. Lapok. 1916. 23. p. 109.

Forewings pale grey and slightly marked. Hindwings whitish-yellow with only light grey traces of the dark marginal band.

ab. infumata Hofer. Verh. zool.-bot. Ges. Wien. 1919. 59. p. (139).

The normal yellow black-margined hindwings are here unicolorous sooty-brown, somewhat as in *tragopoginis* and this dusting shows itself equally on the underside.

ab. variegata Lempke. (nec. Dannehl) Tijdschr. Ent. 1942. 85. p. 124.

Ground colour of the wings black-brown with normal pale transverse lines (first, second and subterminal.) The form is not identical with ab. obscura Turner which lacks the subterminal line completely and looks more unicolorous.

The name "variegata" was used by Dannehl in 1929 for a subspecies of matura and it is strange that Lempke should use it for an aberration. Under present rules, which exclude aberrations, it can however stand, although quite ridiculous.

ab. sanguinea Dannehl. Mitt. Münch. Ent. Ges. 1929. 19. n. 108.

Very dark, intensely violet-red suffused. The paler spots or markings appear rosy-red, especially the stigmata.

Described as an aberration of the subsp. variegata Dannehl but may well occur elsewhere.

ab. radiata Wahlgren. Ent. Tidskr. 1913. 34. p. 165 f. I.

Forewings velvety black with a reddish mixture in the upper part of the central area; transverse lines pure white, the outer one particularly sharp, the subterminal weak yellowish-grey. The veins on the costa and in the marginal field snow-white.

ab. wahlgreni Nordstrom. Svenska Fjarilar. 1940. p. 180.

The ground colour brown-grey, the veins in the outer (marginal) field white. Like the preceding ab. radiata but the with the ground colour pale brown-grey, paler than the type form.

See Lempke footnote in Tijdschr. Ent. 85. p. 125.

ab. obscura Turner. Ent. Rec. 1933. 45. Suppl. p. (285). (See Culot Doct. I. pl. 26 f. 4)
Uniformly dark brown with a lighter inner line and the outer one white except near the costal portion, the rest of the markings obsolescent. The stigmata only indicated by slight black outlines.
Described from the figure in Culot. This shows the subterminal pale wavy line completely absent.

ab. trescoensis Richardson. Ent. Gaz. 1958. 9. p. 128 pl. 9 f. 12.
This striking variety has the subterminal area and the reniform stigma of a pale straw colour, in fresh specimens the pale areas contrast strongly with the dark fringes. Hindwing with the marginal band so pale as to be almost obsolete.

ab. paradoxa Cockayne. Ent. Rec. 1952. 64. p. 191. pl. 8 f. 9.
On the forewing the basal area is pale; the area between the basal and antemedian lines is unicolorous dark chocolate-brown; the inner part of the median area is pale, but that part external to the orbicular and claviform stigmata and the whole of the marginal area is unicolorous dark chocolate-brown. Hindwing normal.

ab. conjuncta Lempke. Tijdschr. Ent. 1942. 85. p. 125.
A dark streak runs from the claviform stigma to the outer line.

aberrational forms etc.

ab. fulgens Hubner-Geyer. Samml. Eur. Schmelt. 1828-32. pl. 168 f. 796.

The figure shows the forewings strongly grey-brown, darker than Hubner's figure of the typical *exigua*. The hindwings dusted dark grey, with the veins prominently outlined in black.

We have specimens from England which agree with this figure.

ab. albimacula Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 113.

The stigmata not yellow or yellow-red but whitish; in particular the orbicular appears prominent as a white circle.

ab. variegata Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 113.

Darker, very variegated, mostly large individuals. Transverse lines scarcely emphasized, blackish, distinctly accompanied by a pale line.

ab. decolorata Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 113.

The opposite extreme to the preceding. Almost markingless pale grey, the stigmata standing out as even paler spots, without their surrounds being distinctly marked. Rarely there is a darker spot between the stigmata.

ab. canior Strand. Arch. Naturg. 1815. 81. III. p. 159.

Much greyer, forewing with the antemedian line on its outer side, and the postmedian on its inner side, strongly defined by black on inner area.

ab. pygmaea Rambur. Ann. Soc. Ent. France. 1834. p. 384. pl. 8 f. 2.

The author says this resembles *exigua* a little but is much smaller. The figure shows an insect of somewhat queer shape, looking like a *Bryophila* (*Cryphia*) but on the whole, a small rather mishapen *exigua*, the markings somewhat mixed or aberrant, this can be caused by pressure on the pupa.

Doct. 220. .
p. I.

Acosmetia Stephens.

caliginosa Hubner. Samml. Eur. Schmelt. 1809. - 15. pl. 100. f. 474.
= *infida* Ochs. & Treitschke. Eur. Schmelt. 1826. 5. (3) p. 286.
" " 1816. 4. p. 93. (nom. nud.)

aberrational forms etc.

ab. litorea Freyer. Neu Beitr. 1845. 5. p. 163. pl. 479 f. I & 2.

Resembles in size and colour Hubner's *caliginosa*. Thorax and forewings of a dusty grey almost without marking, no trace of *stigmata* and weak traces of the three somewhat dark curved bands. Hindwings white-grey without bands and spots. This may possibly be another species but the coloured figures give the impression of *caliginosa*.

ab. stagnicola Duponchel. Hist. Nat. Lep. 1827. 7 (I). p. III. pl. 137 f. 6.

This may possibly be an aberration of *caliginosa*, Warren in Seitz includes it as a synonym of the type which it certainly is not. The excellent coloured figure shows the shape and size of *caliginosa* with the forewings deep grey with three darker transverse bands, the first at the base, the second in the middle followed by the subterminal. In his description Duponchel says there are two bands, the first very large extending from the base to the middle and the other, narrower, extending along the terminal border. In the figure this large basal-median band is divided by a pale line to separate it into two bands. Duponchel says it is the same as *stagnicola* Treitschke, which however is an *anomala* form.

Noct. 221.
p. 1.

Potilampa aurivillius.

- minima* Haworth. Lep. Brit. 1809. p. 216.
- = *arcuosa* Haworth. Lep. Brit. 1809. p. 260.
- = *duponchelii* Boisduval. Ind. Meth. 1829. p. 92.

aberrational forms etc.

minima Haworth. typical form --- female described first as reddish-grey with three pale stripes. The male, described as *arcuosa*, whitish-yellow with two transverse rows of minute fuscous spots.

Heydemann thinks *minima* Haw. is *captiuncula* Freitschke.

ab. lutescens Haworth. Lep. Brit. 1809. p. 260.

Forewings reddish-yellow, widely rufous at the margin.

ab. airae Freyer, Neu Beitr. 1836. 2. p. 109. pl. 162 figs. 1 & 2. (fig. 3 *ab.*)

Forewings more variegated than the typical form. Distinct transverse lines and reniform outlined in dark. The coloured figures are a much deeper yellow than the "whitish yellow" of the type form, Freyer says the figures are so good as to need no description so the form is not made a synonym of the type.

ab. luciola Prochaska. Verh. zool.-bot. Ges. Wien 1920. 70. n. (97).

Male which differs greatly from the type by its sharply marked shining corner-red forewings, of which the middle area appears darker coloured.

ab. grisescens Lemke. Tijdschr. Ent. 1942. 85. p. 91.

Male form. The ground colour of the forewings not yellow, but greyish, as the normal form of the female, the markings however, as feeble as in the normal male.

Noct. 222.
p. I.

Hapalotis Hubner.

venustula Hubner. Beitr. 1796. 2 (5). p. 78. pl. 4 f. 1.
= hybnerana Fabr. Ent. Syst. 1794. 3 (2) p. 247.

aberrational forms etc.

Noct. 223.
p. I.

Stilbia Stephens.

- anomala* Haworth. Trans. Ent. Soc. 1812. p. 336.
- = *hybridata* Hubner. Samml. Eur. Schmett. (Geom). 1818-19. f. 497-498.
- = *stagnicola* Treitschke. Schmett. Eur. 1825. 5(2). p. 258.
- = *anomalata* Curtis. Brit. Ent. 1837. 14. p. 631.

Warren in Seitz gives *insularis* Fuchs as a synonym but by the description it may well be another species.

aberrational forms etc.

Meristis Hbn.

- Woot. 224.
p. I.
- trigrammica Hufn. Berl. Mag. 1766. 3. v. 408.
 - = trilinea Schiff. Wien Verz. 1775. p. 84.
 - = quercus Fabricius. Syst. Ent. 1775. v. 594.
 - = notacula Fabricius. Mantissa 1788. 2. p. 138.
 - = quercicola Gmelin. Linn. Syst. Nat. 1788. I. (5). p. 2555.

aberrational forms etc.

trigrammica Hfn. typical -the ground colour greyish.

ab. evidens Thunberg. Ins. Suec. 1784. I. p. 2.

The original description gives the colour as grey or yellowish.

Most authors give the colour as yellowish, or reddish-yellow, apparently accepting the second colour, since the grey form is the typical one.

ab. erubescens Turati. Nat. Sic. 1909. 21. v. 103. pl. 6. f. II.

The ground colour reddish, not greenish.

The coloured figure is apparently not good, the colour being brown.

ab. ferrufa Warren. Geitz. 1911. 3. p. 229. pl. 46 f. row I.

The whole wing rufous, with the median shade absent or obscure.

ab. albescens Lenz in Osthelder. Schmett. Sudbayer. 1927. I. p. 304. pl. 15 f. 18.

Lightened to whitish. In the marginal field of both fore and hindwings there remains a darker shadow.

ab. semifuscans Haworth. Lep. Brit. 1825. p. 249.

The outer half of the forewings from the middle shallow reddish-fuscous, the basal half normal lighter colour, reddish-grey.

ab. bilinea Hubner. Samml. Eur. Schmett. 1800-03. pl. 45 f. 217. (N. 3. Syst. Bearb. 2. f.)

= bilinea Treitschke. Schmett. Eur. 1825. 5. (2). p. 275.

= pallida-linea Tutt. Brit. Woot. 1891. I. p. 142.

There is much confusion among authors over the figure in Hubner's Samml. Eur. Schmett. fig. 217. Herrich Schaffer however makes it quite clear by refiguring the form in Syst. Bearb. 2. pl. 77 f. 398 and stating that the colours are quite incorrect in Hubner's figure, the basal half of the middle field is not darker, a description then follows - "brown-grey, lighter towards the margin and around the two transverse stripes, the middle shadow very indistinct." (page 174.)

Treitschke refers to Hubner's figure and says it is too hard and barely recognisable and then redescribes it as follows -- "colour pale ash-grey, which on the head and thorax is less, and on the forewing more, particularly after the first transverse line, mixed with brown-red. Two distinct transverse lines, both paler in colour and with a brown streak in their middle, sometimes with a slight trace of a middle shadow." Treitschke's bilinea is therefore the same as Hubner's, Tutt gives a wrong translation of Treitschke's bilinea stating that the "streak" (referred to in the description as being situated in the middle of the transverse lines) is a "broad band" with a dark brown shade in the middle. Also that the colour is dark ashy-grey whereas Treitschke says "pale ashy-grey mixed with brown-red". Tutt renames the form pallida-linea. The bilinea of Hubner then is brown-grey with two paler transverse stripes edging the black transverse lines, the middle shadow very indistinct.

ab. obscura Tutt. Brit. Ent. 1891. T. 2. 142.

= bilinea Haworth. (nec. Hubner) Lep. Brit. 1809. p. 249. (non. preoc. Hubner.)

Forewings sooty-grey with two straight striae.

Haworth cites the fig. 217 in Hubner's Samml. Eur. Schmett. which is coloured dark ash-grey in error by the artist, according to Herrich-Schäffer. Haworth's form is therefore darker than the preceding bilinea Hbn. and Tutt regards it as obscura, his description being ---the most unicolorous and obscure form, being of a very dark smoky-grey or brown colour, generally with two transverse lines clearly marked, although the others are somewhat faintly traceable.

ab. brunnea Lenz. Osthelder Schmett. Sudbayern. 1927. I. p. 304 pl. 15 f. 20.

This is little different from bilinea Hbn. Lenz assumed that the colour of Hubner's figure was correct and calls it "dark grey", separating his own brunnea as being darkened to brown. The actual colour of bilinea Hbn, according to Herrich-Schäffer, is brown-grey which is little different from "brown" and hardly worthy of separation. It can stand, if desired, as being without the grey tint, darkened to brown.

ab. renata Lenz. Osthelder Schmett. Sudbayern. 1927. I. p. 304.

The reniform dark surrounded and therefore standing out distinctly.

Lenz does not state whether the middle shadow is present or not, if it is, the reniform would be situated in its upper part.

ab. oculata Wihan. Soc. Ent. 1917. 32. p. 4.

The middle transverse line broadened in its upper part to form a lentil-shaped mark, 3 mm. in length and $1\frac{1}{2}$ mm. in breadth.

This may be the same as the preceding since the name is oculata (eye) but by the description the mark is solid, a broadening of the actual line and therefore filled in with dark.

ab. basivoluta Wihan. Soc. Ent. 1917. 32. p. 4.

The transverse streak, close to the base, united by a curve at the costa, with the first transverse line.

Turner gives a completely wrong translation of the this form.

ab. fasciata Krombach. Int. Ent. 3. 1920. 13. p. 180.

Forewing with strikingly broad middle band.

ab. approximans Haworth. Lep. Brit. 1809. p. 249.

The description says the second and third lines approach each other at the inner margin. This must be a rare form unless Haworth means the antemedian and middle shadow which is not likely. Many authors give the "first and second lines" but this is not correct if the original description be taken. Haworth calls all his forms "Treble Lines" he is therefore not counting the basal streak as a line.

ab. convergens Wihan. Soc. Ent. 1917. 32. p. 4.

The first and second lines united at the inner margin, so that the central line runs obliquely inwards.

Turner gives a completely wrong translation of this form.

ab. quadrigrammica Lenz. Osthelder Schmett. Sudbayern. 1927. I. p. 304.

The outer transverse line doubled.

Lenz does not say whether or not the middle shadow is present but since the name is quadrigrammica it is assumed that it is and there are four lines in place of the normal three. Cockayne has described a form with the appearance of a double outer line but actually this is with the middle shadow moved outwards close to the outer line. See next form.

ab. *eccentrica* Cockayne. Ent. Rec. 1951. 63. p. 160 pl. 5 f. 7.

On the forewing the basal, antemedian and postmedian are in their usual position but the median line, which is the same thickness as the others, is displaced outwards and runs parallel and close to, the postmedian, and lies some distance outside the discoidal spot, instead of running through it or just internal to it; the discoidal spot is just visible.

ab. *fringsii* Schultz. Soc. Ent. 1899. 13. p. 153.

In place of the normal three transverse lines there is only one, strongly curved in the middle field of the forewing; from this line towards the margin there is some dark shadowing of broad expanse, which, however, stands out much less from the ground colour than the actual line. This transverse shadow does not reach the margin of the wing. For the rest the forewings are completely markingless.

ab. *obsoleta* Lempke. Tijdschr. Ent. 1942. 85. p. 90.

The middle shadow line fails, the other transverse lines very weakly visible. Lempke gives a wrong translation of his Dutch description in the English footnote which reads--- the central shade fails, the other transverse lines obsolete. It should read "obsolescent".

- pallustris Hubner. Samml. Eur. Schnett. 1803-08. pl. 79 f. 367.
= palustris Hubner. Verz. Schnett. 1822. p. 209. (spelt with one l)
= exilis Eversmann. Bull. Soc. Mosc. 1842. p. 848.
= lutea Freyer. Neu Beitr. 1845. 5. p. 121 (luteola on pl. 455 f. 3)

aberrational forms etc.

ab. lutescens Farren. Ent. Rec. 1899. II. p. 114.

Forewings of a distinct and clear ochreous brown, without any of the grey of the type, having the basal transverse line, stigmata and transverse line beyond, more or less well-defined, but always without a trace of the subterminal shade..

ab. fusca Farren. Ent. Rec. 1899. II. p. 114.

Markings as in type but the basal two thirds of the forewings, so darkly fuscous as to almost obliterate the basal transverse line and stigmata; this almost black coloration extends to, and is limited by, the transverse line beyond the reniform; the terminal third of the wing is typical but darker, and has the subterminal shade.

ab. obscura Hoffmann. Mitt. Nat. Ver. Steierm. 1916. 52. p. 125.

Darker than typical, the markings as well as the marginal streaks are in this form particularly clearly developed, whilst in the light form they are scarcely visible.

I have not seen the original description.

ab. raebeli Dannehl. Ent. Z. 1925. 39. p. 12.

The males very dark, unicolorous grey-black to brown-black, with hardly visible marking remnants; the females completely black with a strong gloss.

ab. aboleta Guenee. Spec. Gen. Lep. Noct. 1852. I. p. 238.

Forewings of a clear ochraceous-grey, powdered with blackish, with the two indistinct median lines, the elbowed one toothed, and an indistinct cellular spot all darker; the outer margin and extremity of the nervures more obscure. Hindwings of a dirty white with small grey terminal dashes, without cellular spot above but with a very small one below. Described from a single specimen from S. Russia.

Oct. 226.
P. I.

Caradrina Gchs.

morpheus Hufn. Berlin Mag. 1766. 3. p. 302.

Some authors include radica Esper Eur. Schmett. 1786. 4(2). p. 497. pl. 154 f. 4. but neither the figure or description are of morpheus, the stigmata are stated to be white. Verneburg says it is xanthographa.

Warren gives pulla Beckwith. Trans. Linn. Soc. 1794. 1. p. 5. pl. I. figs. 7-9. as a synonym of the type, and Turner as an aberration, but neither the figures or description fit morpheus in any way so it is not included here.

aberrational forms etc.

morpheus Hufn. typical form ---the forewings yellowish-brown.

ab. obscura Tutt. Brit. Oct. 1891. 1. p. 147.

Forewings deep greyish-fuscous inclining to blackish, the darker stigmata and transverse lines being comparatively inconspicuous owing to their being little darker than the ground colour.

ab. sepia Hubner, Samml. Eur. Schmett. 1800-03. pl. 34 f. 161.

The coloured figure shows the forewings reddish-brown, especially in the median area, the subterminal conspicuously white, probably an exaggeration on the part of the artist. Tutt retains the name for examples with a reddish tint around the stigmata.

ab. ochrea Lenz. Osthelder Schmett. Sudbayern. 1927. 1. p. 306. pl. 15 f. 19.

Forewings pale yellow-brown, with indistinct marking.

The figure hardly agrees with this description, the stigmata and subterminal shade are most conspicuous.

ab. minor Tutt. Brit. Oct. 1891. 1. p. 147.

Very small, measuring only seven-eighths of an inch in expanse.

ab. spalleki Kitt. Verh. zool.-bot. Ges. Wien. 1917. 67. p. (138).

Possesses, with otherwise normal ground colour and marking, a darkened black-brown basal and marginal field of the forewing and black-brown filled-up stigmata; the subterminal line stands out distinctly from the lighter, shining, brownish yellow-green ground colour.

ab. fusca Costni. Atti. Soc. Modena. (5) 3. p. 16.

Ground colour very dark black-brown.

Description from Seitz Suppl. by Drault. I have not seen the original.

ab. punctosa Krulikowsky. Bull. Soc. Ent. Mosc. (1893) 1894. p. 74.

Small, the orbicular a small point (punctiform).

It is difficult to know why this form was named, whether it was for its small size or the small point in place of the orbicular, the orbicular being small in most specimens. It may well be a synonym of minor Tutt.

ab. dresnayeri Lucas. Bull. Soc. Ent. France. 1933. 38. p. 175.

Forewings grey without reddish tint, the lines and markings fuscous. The colour darker than the type form on which the markings appear dull.

The author says it is possibly a melanic variety so would appear to be much darker than the description implies.

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p. 4.

morpheus Hufn. continued.

ab. semiconfluens Lempke. Tijdschr. Ent. 1942. 25. p. 94. (description vol. 2. 5. 17.)
Instead of joining, the stigmata are united by a double line.

Noct. 227. .
p. I.

Caradrina Ochs.

alsines Brahm. Ins. Kalend. 1791. 2. p. 298.

aberrational forms etc.

ab. implexa Stephens. Ill. Haust. 1829. 2. p. 156.

Paler than the typical form, the forewings rusty or yellowish-griseous, with four distinct darker or fuscous striae, and greater undulation of the pale posterior striga.

ab. ochrea Warren. Seitz. 1911. 3. p. 208.

Forewings, head and thorax pale yellow-ochreous, the dark markings tending to become effaced.

ab. suffusa Tutt. Brit. Oct. 1891. I. p. 147.

This is an hypothetical form and possibly does not exist. Tutt says it is Guenee's var. A and gives Guenee's own description but instead of "blanches" (white) scales, Tutt gives black scales. Guenee's description as given by Tutt reads "The costa, median space, subterminal line and a line bordering the fringe, strongly powdered with black scales." Guenee himself says "white scales". It would be best not to use the name.

ab. sericea Speyer. Stett. Ent. 4. 1867. 23. n. 73.

The description is very long and involved. Lempke in Tijdschr. Ent. 85. p. 97 gives his conclusions and the main points of the aberration, having seen Speyer's type. It is distinguished by the yellowish-grey or pale brownish-grey forewings and very indistinct markings, the latter being the most striking character. The wings are said to be smooth and shiny. Lempke restricts the name to alsines, Mellon has a ♀ said to be of this form.

ab. rufescens Lempke. Tijdschr. Ent. 1942. 85. p. 96.

Ground colour of the forewings reddish.

ab. elegans Lempke. Tijdschr. Ent. 1942. 85. p. 96.

Forewings clear yellow-brown, with sharply contrasting markings.

ab. clausa Lempke. Tijdschr. Ent. 1942. 85. p. 97 (description vol. 84. p. 177.)

The first and second transverse lines join at the inner margin.

blanda Schiff. Wien Verz. 1775. p. 77.
= taraxaci Hubner. Samml. Eur. Schmiedt. 1807-15. pl. 125 f. 575.

aberrational forms etc.

blanda Schiff. typical form --- uniformly reddish-grey, the stigma and subterminal line outlined in paler colour.

ab. redacta Haworth. Lep. Brit. 1809. p. 206.

Forewings grey with three obsolescent fuscous stripes and a pale subterminal line. Tutt includes this as an aberration of blanda and says it is ashy-brown with indistinct stigma and transverse markings.

It would be far better to leave these Haworth names out of literature when they are so vague, Tutt has a habit of altering Haworth's own description to suit himself, in this case he has altered "grey" into ashy-brown.

ab. egens Haworth. Lep. Brit. 1809. p. 206.

Forewings fuscous, otherwise similar to the preceding redacta, the subterminal narrowed or obsolescent.

Tutt also alters this description in saying that the markings and stigma are distinct, Haworth says it is similar to redacta in which the markings are obsolescent.

ab. sordida Haworth. Lep. Brit. 1809. p. 207.

Tutt includes this as an aberration of blanda but the description may apply to anything, the forewings dull reddish, with two obsolescent stripes. Tutt's own description is reddish-brown with indistinct stigma and transverse markings.

ab. pallidior Lenz. Osthelder Schmiedt. Sudbayern. 1927. I. p. 307.

Pale grey-brown with obsolescent markings.

ab. albescens Cockayne. Ent. rec. 1954. 66. p. 65.

Head, thorax, legs, and forewings whitish-brown, the abdomen even paler and the hindwing almost white. It is an albino.

ab. suffusa Prout. Ent. rec. 1895. 6. p. 227. (transferred from superstes ab. suffusa Tutt)
= fusca Lenz. Osthelder Schmiedt. Sudbayern. 1927. I. p. 307.

Forewings obscure deep fuscous.

Lenz fusca was described as dark grey.

Tutt originally described ab. suffusa under C. superstes from a specimen from Eligo. This was subsequently found to be a blanda form by Prout who transferred the name to this species.

ab. pseudambigua Berny. Eos. 1927. 3. p. 382.

The hindwings paler with hardly dusted margins; also the forewings are purer grey.

ab. arcuata Vorbrodt. Mitt. Schweiz Ent. Ges. 1912. p. 462.

A distinct arched row of black dots in the centre of the hindwings.

Description from Seitz by Draudt, I have not seen the original.

Noct. 229.
p. I.

Caradrina Ochs.

ambigua Schiff. *Vien Verz.* 1775. p. 77.
= *plantaginis* Hubner. *Samml. Eur. Schmett.* 180, -13. pl. 12, 2. 77.

aberrational forms etc.

ambigua Schiff. --- typical form -- the forewings ground colour grey.

ab. obscurior Prout. *Ent. Rec.* 1895. 6. p. 228.

Much darker than the type.

The description is very poor, Prout says he took the name from a note by Hives in *Ent. Tidskr.* 5. p. 72., in which it was used apparently entirely as an adjective.

ab. brunnescens Lempke. *Fijdschr. Ent.* 1952. 95. p. 279.

The ground colour of the forewings brown-grey.

This must be very close to Prout's *obscurior* and hardly worth of separation.

ab. ochracea Prout. *Ent. Rec.* 1895. 6. p. 228.

Strongly tinged with yellow.

The following aberrations given by Turner are hypothetical, since they were not described by Strand under *Caradrina ambigua* as Turner states, but under *Oligia ambigua* a species from Africa. These are given in *Ent. Rec.* 46 Suppl. (Brit. Noct.) p. (338). They have no standing in literature.

ab. tripunctata Strand. *Arch. Naturg.* 1915. 81. III. p. 154.

ab. lecinerea Strand. " " " " "

ab. ambiguella Strand. " " " " "

ab. subambigua Strand. " " " " "

ab. confluens Vorbrodt. *Mitt. Schweiz Ent. Ges.* 1921. 13. p. 189.

The stigmata are fused together to form a longitudinal irregular bar.

- clavipalpis* Scop. Ent. Carn. I/63. p. 213.
 = *quadripunctata* Fabr. Syst. Ent. I775. p. 514.
 = *cubicularis* Schiff. Wien Verz. I775. p. 72.
 = *grisea* Rott. Naturf. I776. 9. p. 138.
 = *segetum* Esner. (nec. Linn.) Eur. Schmett. I786. 4. (2). 4/2 1. I786.

aberrational forms etc.

clavipalpis Scop. typical form --- the forewings brownish-grey with moderate clouding.

ab. *obscura* Prout. Ent. Rec. I895. 6. p. 224.

= *menetriesii* Tutt. (nec. Kretschm.) Brit. Noct. I891. I. p. 153.

= *thunbergi* Nordstrom. Ent. Tijdschr. I933. 54. p. 225. pl. II. figs. 27-29.

Almost unicolorous greyish fuscous.

Prout is renaming the form given by Tutt as *menetriesii* Kretschm. This does not belong to *clavipalpis*, as Tutt concluded, but to another species, *grisea* Eversm.

ab. *albina* Tutt. (Prout.) Ent. Rec. I895. 6. p. 224. (see Brit. Noct. I891. I. p. 153.)

The forewings yellow-grey.

Tutt gives a var. *albina* Eversmann as a form of *clavipalpis* but *albina* Ev. is a different species. Prout redescribes it as an ab. of *clavipalpis* giving Tutt the credit as author.

ab. *pallida* Lempke. Tijdschr. Ent. I942. 85. p. 93.

Ground colour of the forewings pale grey.

Lempke is renaming the various pale forms given by Tutt as belonging to *clavipalpis* but which are actually different species.

ab. *nigrofasciata* Hoffmann & Kloss. Mitt. Nat. Ver. Steierm. I915. 52. p. 118.

The marginal area of the forewing dark brown, from the elbowed line to the light fringe it is black-brown, the fine border line light brown and the marginal dots deep black.

Many authors make this a synonym of *quadripunctata* Fabr., treated here as a synonym of the type form, but it would appear much more extreme.

ab. *nigromaculata* Closs. Int. Ent. I. I919. 13. p. 50.

The reniform stigma filled with black.

ab. *bilineata* Prout. Ent. Rec. I895. 6. p. 224.

The forewings showing only the very distinct inner and outer elbowed lines, no other transverse markings appearing.

ab. *obsoleta* Lempke. Tijdschr. Ent. I942. 85. p. 93.

The transverse lines on the forewings completely fail.

haworthii Curtis. Brit. Ent. 1829. 6. pl. 260.

aberrational forms etc.

haworthii Curtis. typical form --- yellowish-brown, variegated with rosy scales the reniform cream with a dark line on the inside.

ab. tripuncta Curtis. Brit. Ent. 1829. 6. pl. 260b. (descript. Humph. & Westw. 7. 182.) Both the stigma distinct and pale, as well as a pale patch on the subapical striga near the costa.

Humphrey & Westwood figure this form in vol. I. pl. 38 f. 15. The pale patch, together with the reniform and orbicular which stand out very clearly on the dark ground, give the "tripuncta" effect.

ab. lancea Stephens. Ill. Haust. 1829. 3. p. 18. (Wood Ind. Ent. 1839. pl. 13 f. 284.)

Differs from other forms chiefly in its smaller size, nearly uniformly coloured forewings and paler hindwings, the forewings are pale reddish-fuscous.

The coloured figure in Wood's Ind. Ent. shows the forewings pale reddish-brown with the subterminal fascia paler, and of the same ochreous tint of the stigma, the dark variegation is absent; a striking aberration. From Ramseyere, Norfolk.

ab. hibernica Stephens. Ill. Haust. 1829. 3. p. 17. (Wood's Ind. Ent. 1839. pl. 13 f. 285)

Forewings reddish-brown, without any of the black markings that form such strong characters in ordinary form; the orbicular is usually absent and there is a whitish fascia in the submarginal area, the reniform dirty ochraceous, with a dusky centre.

The name was given because the specimens came from Ireland (Dublin) but it is not likely that all Irish specimens are of this form. We have no Irish material at the time of writing. The figure given by Wood is very similar to that of ab. lancea Stephens, also given by Wood, but reddish-brown instead of pale reddish-brown.

ab. erupta Germar. Faun. Ins. Eur. 1842. 22. pl. 15 figs. a & b.

Forewings brown-black to black, the stigma white, standing out in contrast.

Noct. 232.
p. I.

Oclaena Stephens.

leucostigma Hubner. *Annul. Eur. Schnett.* 1895-96. - 1. 80 f. 275.

aberrational forms etc.

leucostigma Hbn. typical form -- the figure shows the wings dark brown with faint transverse lines, the reniform yellowish.

ab. *fibrosa* Hubner. *Annul. Eur. Schnett.* 1895-96. pl. 82 f. 385.

The variegated form. Forewings red-brown with a paler transverse fascia before the subterminal line, the terminal area being contrastingly dark grey; the stigma outlined in paler colour from whitish-brown to yellowish.

The coloured figure in Hubner's work is obviously too highly coloured, being bright scarlet in places. The following *lunina* Haworth is probably a synonym.

ab. *lunina* Haworth. *Lep. Brit.* 1809. n. 209.

= *intermedia-albo* Tutt. *Entom.* 1890. 23. p. 13.

= *albo-lunina* Tutt. *Brit. Noct.* 1891. I. p. 67-68.

The ground colour of the forewings rusty-chestnut with a large angled, darker, band-like area in the middle, in which there is a white lunule.

Haworth's *lunina* is, in my opinion, a synonym of *fibrosa* Hbn., being of the variegated form, but Hubner's figure is so exaggerated in colouring that it is not possible to be certain. Tutt states that his "*intermedia*" forms are the same as *lunina* and renamed them *albo-lunina* and *flavo-lunina*.

ab. *intermedia-flavo* Tutt. *Entom.* 1890. 23. p. 13.

= *flavo-lunina* Tutt. *Brit. Noct.* 1891. I. p. 68.

The same as *lunina* Haworth but with the reniform ochreous instead of white.

ab. *albipuncta* Tutt. *Entom.* 1890. 23. p. 13.

Unicolorous purplish-brown, amber-brown or blackish, with faint traces of transverse markings, but with the reniform white instead of ochreous. The type form figured by Hubner has the reniform yellowish.

ab. *nigrobrunneata* Du Bois-Reymond. *Zts. Wiss. Ins. Biol.* 1931. 26. p. 39.

Forewings completely black-brown, with yellow stigma.

ab. *traegeri* Du Bois-Reymond. *Zts. Wiss. Ins. Biol.* 1931. 26. p. 39.

Forewings completely markingless pale grey, thorax and head similar colour, the reniform white. The normal darker terminal shade is only apparent in certain lights.

ab. *pallida* Heydemann. *Ent. Z.* 1938. 52. p. 47 pl. I. f. 18.

Striking pale reddish-brown forewings, the dull grey marginal shade wholly suffused so that only the yellowish-white reniform remains distinct. Hindwings dirty white, rather paler than typical.

ab. *purpurascens* Lempke. *Tijdschr. Ent.* 1942. 85. p. 105.

Forewings purplish, the central area dark purplish, with chalky-white circumscription of the reniform stigma.

A very dark form of the variegated type.

subsp. scotica Cockayne. Ent. Rec. 1944. 56. p. 55.

Smaller and darker than the typical form which occurs in England and on the Continent. The length of the forewing is 15 mm. compared with 17 mm., the average length of English specimens. The Scottish subspecies, described from Rannoch, Perthshire.

Noct. 233.
p. I.

Hydraecia Guenee.

- oculea Linn. Faun. Suec. I76I. p. 32I.
- = brunnea Hufn. Berl. Mag. I766. 3. no. 69.
- = nictitans Linn. Syst. Nat. I767. Ed. XII. n. 847.
- = xanthographa Schiff. Wien Verz. I775. p. 86.
- = pupilla Fabr. Ent. Syst. I794. 3(2) p. 69.
- = nyona Fabr. Ent. Syst. I794. 3. (2). p. II6.
- = cinerago Fabr. Ent. Syst. Suppl. I798. p. 445.

aberrational forms etc.

oculea Linn. typical form -- forewings ferruginous with grey clouding, the reniform lunate, yellow, margined with ferruginous, and completely surrounded with white.

ab. auricula Donovan. Brit. Ins. I807. I2. p. 5 pl. 397 f. 3.

Forewings sub-ferruginous and in the middle a large ear-shaped yellow spot enclosing a lunar-shaped ring.

There is apparently no white surround to the yellow lunar-shaped reniform, as in the typical form, the whole spot appearing yellow.

ab. erythrostigma Haworth. Lep. Brit. I809. p. 240.

The stigmata reddish, the ground colour reddish with grey markings.

Very similar to the preceding but the main spot of the forewing reddish.

ab. pallida Tutt. Entom. I888. 2I. p. 310. pl. I f. 8.

Forewings pale yellowish or greyish-red, all the lines and markings very distinct. Both stigmata generally yellowish but sometimes the reniform is whitish, sometimes yellowish. Hindwings paler than in the type.

In Brit. Noct. I. p. 60 Tutt says the reniform is white in pallida.

ab. pallida-flavo Tutt. Brit. Noct. I89I. I. p. 60.

Forewings pale yellowish or pale greyish-red, the reniform yellow.

ab. pallida-rufa Tutt. Brit. Noct. I89I. I. p. 60.

Forewings pale yellowish or pale greyish-red, the reniform red or reddish-orange.

ab. rosea Tutt. Entom. I888. 2I. p. 309. pl. I. f. 9.

A pale red form with transverse lines very indistinct, the orange orbicular faint, the reniform large and white. Hindwings with fringes rosy, with a distinct red line bordering them, the red shade extending some distance within the outer margin.

ab. rosea-flavo Tutt. Brit. Noct. I89I. I. p. 60.

Bright clear red with transverse lines very indistinct, the reniform yellow, as white as in rosea Tutt.

Tutt first described rosea in the Entomologist (above) as "pale red", in Brit. Noct. it is "bright, clear red".

ab. rosea-rufa Tutt. Brit. Noct. I89I. I. p. 60.

Bright clear red with the transverse lines very indistinct, the reniform red or orange-red.

ab. obscura Tutt. Entom. 1888. 21. p. 210. pl. I f. 12.

The ground colour very dark, inclining to blackish, brown colour, with very little trace of the ferruginous of the typical form, the reniform white, the fringes of the hindwings paler, the wings themselves darker than typical.

ab. obscura-flavo Tutt. Brit. Doct. 1891. I. p. 60 & 61.

As the preceding obscura but with the reniform yellow instead of white.

ab. obscura-rufa Tutt. Brit. Doct. 1891. I. p. 60 & 61.

As obscura Tutt but with the reniform red or red-orange instead of white.

ab. albicosta Tutt. Brit. Doct. 1891. I. p. 61.

Forewings and stigma as in the type but with a clear white longitudinal mark along the costa from the base to the apex.

ab. grisea Lempke. Tijdschr. Ent. 1942. 25. p. 111.

The ground colour of the forewings dirty yellowish-gray (exactly as *Succisa* ab. *grisea* Tutt.) without any reddish tint; reniform white.

ab. conjuncta Spuler. Schmiedt. Eur. 1906. I. p. 214.

The huge reniform is united with the yellow surrounded orbicular.

Fucosa subsp. *paludis* Tutt. Entom. 1888. 21. : 312. pl. 1. f. 1.

= *paludis*-albo Tutt. Entom. 1888. 21. : 312. pl. 1. f. 1.

aberrational forms etc.

paludis Tutt -- typical form -- ground colour pale ochreous-yellow with white reniform and yellow orbicular. The subsp. of *fucosa* Freyer, from England, Ireland, &c.

ab. *paludis*-flavo Tutt. Entom. 1888. 21. : 312. pl. 1. f. 2.

Like the preceding but with the reniform yellow instead of white.

ab. *intermedia* Tutt. Entom. 1888. 21. : 312. pl. 1. f. 3.

= *intermedia*-albo Tutt. Entom. 1888. 21. : 312. pl. 1. f. 3.

The ground colour darker ochreous than in *paludis*, with a slight greenish tint and a more distinct shade around the reniform which is white.

ab. *intermedia*-flavo Tutt. Entom. 1888. 21. : 312.

Like the preceding *intermedia*-albo Tutt but with the reniform yellow instead of white.

ab. *grisea* Tutt. Entom. 1888. 21. : 312. pl. 1. f. 4.

= *grisea*-albo Tutt. Entom. 1888. 21. : 312. pl. 1. f. 4.

The ground colour greyish, darker than *paludis* and *intermedia*, with a slight greenish tint, a pale yellow orbicular and white reniform, a darker shade enveloping the lower part of the reniform. Hindwings darker than in either *paludis* or *intermedia*.

ab. *grisea*-flavo Tutt. Entom. 1888. 21. : 312. pl. 1. f. 5 & 6 (not 6 & 7 as stated.)

Like the preceding *grisea*-albo but with yellow reniform instead of white.

Tutt gives figures 6 & 7 for this form but actually they are figs. 5 & 6, fig. 7 is a *nictitans* form, as Tutt himself says in explanation of the plate.

ab. *brunnea* Tutt. Brit. Noct. 1891. 1. p. 64.

= *brunnea*-albo Tutt. Brit. Noct. 1891. 1. p. 64.

Ground colour of the forewings deep brownish; the dark shade, which in *intermedia* surrounds the reniform, spreading all over the wings, making them almost unicolorous; the reniform is white.

ab. *brunnea*-flavo Tutt. Brit. Noct. 1891. 1. p. 64.

Like the preceding *brunnea*-albo but the reniform yellow instead of white.

ab. *rufa* Acton. Ent. Rec. 1895. 7. p. 79.

= *rufa*-albo Acton. Ent. Rec. 1895. 7. p. 79.

Of a dull reddish tint, inclining to brown or ochreous, with white reniform. Acton credits Tutt with the authorship but since he says Tutt did not know of, or describe, the red form in *paludis*, he is not the author.

ab. *rufa*-flavo Acton. Ent. Rec. 1895. 7. p. 79.

Like the preceding *rufa* Acton but with the reniform yellow instead of white.

Acton also credits Tutt with the authorship, as in the preceding.

ab. *obscura* Heydemann. Ent. 1. 1931. 45. p. 20. pl. 4 f. 8.

The ground colour deep chocolate-brown, without red tint, melanistic, with quite narrow streak-like reniform, which is white. The form with the reniform yellow was not known to Heydemann.

Noct. 234,
p. 2.

Fucosa Freyer.
subsp. *paludis* Tutt. continued.

ab. *obscura-flavopaculata* Lenoir. Tijdschr. Ent. 1, 42. 63. p. 114.

Ground colour of the forewings deep chocolate-brown, reniform subd. or orange.

ab. *virgata* Cockayne. Ent. rec. 1951. 63. p. 160.

On the forewing the median area, from a point just internal to the orbicular, to a point just external to the reniform, is completely filled with dark scales, forming a broad median band.

ab. *obsolata* Richardson. Ent. rec. 1952. 64. p. 272. pl. 11. f. 19.

The orbicular absent and the reniform markedly restricted and of the same colour as the rest of the wing which is deep brownish, as in ab. *brunnea* Tutt.

Noct. 235.

Hydraecia Guen.

p. 1.

lucens Freyer. Neu Beitr. 1845. 5. p. 143. pl. 468 f. 3.

aberrational forms etc.

lucens Freyer. typical form --- light red-brown ground colour, the stigmatic orange-red.

ab. lucens-flavo Tutt. Brit. Noct. 1891. 1. p. 63.

As the typical form but with the reniform yellow instead of orange-red or deep red.

ab. lucens-albo Tutt. Brit. Noct. 1891. 1. p. 63.

As the typical form but the reniform white instead of red.

ab. pallida Tutt. Brit. Noct. 1891. 1. p. 62.

= *pallida-albo* Tutt. Bt. Noct. 1891. 1. p. 62.

Of a pale greyish coloration with a faint suspicion of reddish in the ground colour, the reniform white.

ab. pallida-flavo Tutt. Brit. Noct. 1891. 1. p. 62.

Like the preceding *pallida* Tutt but with the reniform yellow instead of white.

ab. grisea Tutt. Brit. Noct. 1891. 1. p. 62.

= *grisea-albo* Tutt. Brit. Noct. 1891. 1. p. 62.

Of a greyish-ochreous coloration, strongly irrorate at the base, slightly reddish in the central area, the reniform with an inner line, therefore broad as in *nictitans* (*oculea*), otherwise more like *paludis ab. grisea* Tutt, the reniform white.

ab. grisea-flavo Tutt. Brit. Noct. 1891. 1. p. 62.

Like the preceding *grisea* Tutt but with the reniform yellow instead of white.

ab. rufa Tutt. Brit. Noct. 1891. 1. p. 61.

= *rufa-albo* Tutt. Brit. Noct. 1891. 1. p. 62.

Of a clear bright red colour, reticulated as in *grisea* Tutt, the reniform white.

ab. rufa-flavo Tutt. Brit. Noct. 1891. 1. p. 62.

Like the preceding *ab. rufa* Tutt, but with the reniform yellow instead of white.

ab. brunnea Tutt. (Acton). Ent. Rec. 1895. 7. p. 79.

= *brunnea-albo* Tutt. Ent. Rec. 1895. 7. p. 79.

= *intermedia-albo* Heydemann (nec. Tutt) Ent. 1. 1931. 45. p. 36.

Of a brown hue, with a distinct ochreous tint, sometimes reddish centrally, with white reniform.

Heydemann gives *intermedia-albo* with Tutt as the author which is not correct, the name must therefore be Heydemann's, but it is a synonym of Tutt's *brunnea*.

ab. brunnea-flavo Tutt. (Acton). Ent. Rec. 1895. 7. p. 79.

= *intermedia* Heydemann. (nec. Tutt.) Ent. 1. 1931. 45. p. 36. pl. 4 f. 23 & 24.

Like the preceding *ab. brunnea* Tutt but with the reniform yellow instead of white. Heydemann credits Tutt with the authorship of *intermedia* which is incorrect, Heydemann is therefore the author, but the name is a synonym of *brunnea-flavo* Tutt.

ab. brunnea-rufa Tutt. (Acton). Ent. Rec. 1895. 7. p. 79.
Like brunnea Tutt but with the reniform red instead of white.

ab. castanea Lempke. Tijdschr. Ent. 1942. 85. p. 115.
= brunnea Heydemann. (nom. preoc. Tutt.) Ent. Z. 1931. 45. p. 36.
The ground colour of the forewings deep brown, the reniform yellow.
The "brunnea" nom. coll. given by Heydemann is not the same as brunnea Tutt, Lempke
has therefore renamed it castanea.

ab. brunnea-albo Heydemann. (nom. preoc. Tutt.) Ent. Z. 1931. 45. p. 36 pl. 4 f. 17.
Brown to dark leather-brown, without the red tone in the middle field, the
reniform white. Hindwings mostly wholly dark grey.
Heydemann's brunnea and brunnea-albo are not the same as Tutt's forms of these
names.

ab. obscura Heydemann. (nec. Tutt.) Ent. Z. 1931. 45. p. 36.
Melanistic. Deep reddish-black-violet-brown with blackish lines, the reniform
bright red-orange. Hindwings almost completely black-grey.
Heydemann seems completely mixed over Tutt's forms. In this case he again credits
Tutt with the authorship but Tutt's obscura was for dictitans(oculca), the name
obscura must therefore be Heydemann's.

Oct. 1906.
p. 1.

Lyraecia Guen.

crinanensis Burrows & Pierce. Ent. Rec. 1910.22. p. 81.
= *crinanensis* Burrows. (nom. nud.) Ent. Rec. 1908.20. p. 16.

aberrational forms etc.

crinanensis Burrows & Pierce. typical form --- bright brick-red, the central area, reniform and orbicular orange.

This species occurs in North England, Scotland and commonly in Ireland. It can only be separated with certainty by its genitalia.

ab. pallida-flavo Burrows. Ent. Rec. 1910.22. p. 81.
Pale yellowish-grey, with the reniform yellow.

ab. rufescens-flavo Burrows. Ent. Rec. 1910.22. p. 81.
Dull red, with the reniform dull orange.

ab. rufescens-albo Burrows. Ent. Rec. 1910.22. p. 81.
Dull red, with the reniform white.

ab. griseosens-flavo Burrows. Ent. Rec. 1910.22. p. 81.
Grey-red, with the reniform yellow.

ab. griseosens-albo Burrows. Ent. Rec. 1910.22. p. 81.
Grey-red, with the reniform white.

ab. castanea-flavo Burrows. Ent. Rec. 1910.22. p. 81.
Dark chestnut-brown, with the reniform yellow.

ab. castanea-albo Burrows. Ent. Rec. 1910.22. p. 81.
Dark chestnut-brown, with the reniform white.

ab. nigrescens-albo Burrows. Ent. Rec. 1910.22. p. 81.
Red-black, with the reniform white.

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Hydrasocia Guen.

Noct. 237.

p.l.

hucherardi Mabille. Bull. Soc. Ent. France. 1907. p. 37.

= murciegoi Fernandez. Boll. Soc. Espan. Hist. Nat. 1933. 33. p. 362.

aberrational forms etc.

hucherardi Mabille typical form -- the ground colour whitish-ochreous to greyish-ochreous.

ab. subrufa Lucas. Bull. Soc. Ent. France. 1930. p. 195.

Forewings somewhat reddish, the hindwings rosy-ochraceous.

ab. fuscoquadrata Goodson. Ent. Gaz. 1955. 6. p. 68 pl. 2 .

Forewing with the reniform itself, and the space between its outer edge and the postmedian line, heavily dusted with fuscous, forming a decided, dark scaled square. The postmedian line curves well inwards towards the reniform instead of proceeding in a straight line from the inner margin to the costa, the only place where, in normal specimens, it is bowed.

micacea Esper. Eur. Schmett. 1789. 4. (2). p. 466. pl. 145. f. 6.
 = cypriaca Hubner. Samml. Eur. Schmett. 1800-03. pl. 46 f. 224.

aberrational forms etc.

micacea Esper typical form--- the forewings light rust colour or reddish-brown.

ab. cypriaca Haworth (nec. Hubn.) Lep. Brit. 1809. p. 227. (nom. preoc. Hbn.)

Forewings rosy or rosy-fuscous.

This is probably a synonym of the type form, as is cypriaca Hubner, but most authors separate it, on the strength of Haworth's "rosy", as a being pinkish.

ab. grisea Tutt. Entom. 1888. 21. p. 306 & 307.

Forewings whitish-grey, with a slight pink tinge.

ab. lutea Tutt. Entom. 1888. 21. p. 306.

Forewings yellowish-red, the transverse lines paler than in the type. Hindwings pale yellowish with faint traces of the lunule and transverse line, but not of the transverse shade noticeable in the darker forms.

ab. rubida Tutt. Entom. 1888. 21. p. 306 & 307.

Forewings deep red, tinged with purplish.

ab. brunnea Tutt. Entom. 1888. 21. p. 306 & 307.

Forewings of a deep shiny brown. Hindwings very much suffused with fuscous. This form has a superficial resemblance to *G. petasitis* Dbl.

ab. plumbosa Harrison. Vasculum. 1929. 15. p. 39.

"In colour the specimen was dull leaden".

Harrison does not mention the hindwings.

ab. intacta Warren. Seitz. 1911. 3. p. 246. pl. 46 row e.

The hindwings are pure yellowish-ochreous, without marking of any kind. The forewings are wholly suffused with rosy-brown, the median area only a little deeper in colour. Underside rufous-yellow, deeper rufous along costa and termen of both wings, without trace of cell spot and outer line.

This description is exaggerated, the line and cell spot can be clearly seen in the type which is in the Rothschild Coll. and the yellow-ochreous of the hind- is largely produced by grease.

ab. diluta Cockayne. Ent. Rec. 1951. 63. p. 160.

Ground colour of the forewing whitish, with a faint tinge of yellowish-pink, the markings pale with a slight rosy tint; the narrow postmedian and marginal lines are rather darker. Hindwing and abdomen are pale cream, hindwing markings very faint, thorax pale rosy-brown. This is an albinistic or dilute form.

ab. aurantia Richardson. Ent. Rec. 1952. 64. p. 272. pl. 11. f. 20.

Forewings bright orange-red, markings normal.

Noct. 238.
p. 2.

micacea Esper. continued.

ab. discolor Krulikowsky. Bull. Soc. Nat. Moscow (1893) 1894, p. 70.
Forewings greyish or greyish-fuscous, often greenish, not coppery.

ab. confluens Lempke. Tijdschr. Ent. 1942. 85. p. 120.
The orbicular and reniform joined, forming one single spot, their boundary absent at the point of juncture.

Noct. 239.
p. 1.

Gortyna Hbn.

petasitis Doubleday. Zool. 1847. p. 1915.
= vindelicia Freyer. Neu Beitr. 1849. 6. p. 82. pl. 531 f. 3. 2. pl. 562.

aberrational forms etc.

Noct. 240.
p. 1.

Gortyna Hbn.

- flavago Schiff. Lien Verz. 1775. p. 86.
= aureo-maculata Goeze. Beitr. 1781. 3. (3). p. 238.
= lappae Donovan. Brit. Ins. 1801. 10. p. 35. pl. 340.
= ochraceago Haworth. Lep. Brit. 1809. p. 234.
= flavoauratum Tutt. Entom. 1888. 21. p. 271.

aberrational forms etc.

flavago Schiff. typical form -- the forewings gold-coloured, sprinkled with brown.

ab. ochracea Hubner. Beitr. 1786. 1. p. 19. pl. 2 f. M.

The paler form. The figure shows the forewings palish yellow, the description says ochre-yellow.

ab. suffusa Warren. Seitz. 1911. 3. p. 225.

The forewing wholly suffused with ferruginous.

ab. reducta Lempke. Tijdschr. Ent. 1942. 85. p. 107.

The dark band at the forewing fails, for the greater part, or completely.

Noct. 241.
p. 1.

Pyrrhia Hubner.

- umbra Hufnagel. Berl. Mag. 1766. 3. p. 294.
- = chrysographa Ernst. & Engr. Pap. Eur. 1791. 7. p. 105. pl. 288 fig.
- = conspicua Borkhausen. Eur. Schmett. 1792. 4. n. 123.
- = umbrago Esper. Eur. Schmett. 1796. 4. (2) Abschn. p. 21. pl. 185 f. 7-8
- = marginago Haworth. Lep. Brit. 1809. p. 235.

aberrational forms etc.

umbra Hufn. typical form -- orange-yellow or orange-red.

ab. marginata Fabricius. Mantissa Ins. 1787. 2. p. 166.

The ground colour yellow, without the orange tint, the bands ferruginous.

ab. suffusa Lempke. Tijdschr. Ent. 1941. 84. p. 342.

Ground colour of the forewings suffused with red-brown and therefore darker; the marginal band of the hindwings is also blacker.

ab. rutilago auct.

Many authors include rutilago Fabricius under this species but Fabricius refers to the Wien Verz -rutilago. This is placed as a synonym of *Tiliacea aurago* Schiff. in these notes. Haworth makes the rutilago Fabricius a synonym of *marginata* Fabr. but refers to the rutilago of Hubner fig. 185 which is not the rutilago of Fabr. and is now considered a synonym of another species - *purpurina* Esper.

The name rutilago, to avoid confusion, should be restricted to *T. aurago*; Fabricius mentions a fuscous basal band which this species, umbra, does not possess.

Noct. 242.
p. 1.

Heliothis Ochs.

viriplaca Hufnagel. Berl. Mag. 1766. 3. p. 406.
= *dipsacea* Linn. Syst. Nat. 1767. Ed. 12. p. 856.

aberrational forms etc.

ab. *tristis* Stauder. Ent. Anz. 1923. 3. p. 44.

More monotonous in colour than the typical form, darker, the usual pale parts of the forewing greenish-grey, not yellow-grey, and hardly standing out from the ground colour. Hindwings with the black much increased.

ab. *albida* Fuchs. Jahrb. Nassau Ver. Nat. 1904. 57. p. 38.

Forewing whitish with very weak middle band, the hindwing with pure white band and large spot.

ab. *canariensis* Warren. Seitz 1911. 3. p. 245.

Described as an aberration but is a subspecies from the Canary Islands and not included here.



Noct. 243.
p. 1.

Heliothis Ochs.

maritima de Graslin.

Bull. Soc. Linn.

subsp. warneckei Boursin. (nom. nov. pro septentrionalis Lyon 1964. 33. 240
= septentrionalis Hoffmeyer. (nom. preoc.) Flora og Fauna 1924. 46

maritima

subsp. warneckei Boursin. . British specimens belong to this subspecies which shows a blackish streak or shade at the base of the forewing just below the median vein, a feature not possessed by other forms of *maritima* or by *dipsacea*.

aberrational forms etc.

ab. ferruginea Spuler. Schmett. Eur. 1907. 1. p. 281.

Sometimes in the male the forewings are yellow-red, in the female reddish brown-yellow, suffused, as is also the body. Hindwings red-yellow tinted.

ab. albida Cockayne. Ent. Rec. 1951. 63. p. 160.

The ground colour of the forewing white; the central dot of the orbicular and the dark central marks of the reniform are present and distinct; all the other dark markings, especially the median shade, are very pale, but the subapical mark and the dots of the subterminal line are darker; the marginal row of dots is black; the marginal area between the subterminal line and the termen is white. Hindwing normal, the thorax pale.

ab. obscura Lempke. Tijdschr. Ent. 1941. 84. p. 337.

The forewings dark olive-grey, the markings obsolete.



Noct. 244.

Heliothis Ochs.

p. 1.

peltigera Schiff. Wien Verz. 1775. p. 89.

= alpheia Cramer. Pap. Exot. 1779. 3. p. 99. pl. 250 f. F.

aberrational forms etc.

peltigera Schiff. typical form -- Schiff says pale cinnamon coloured.
Cramer's alpheia was yellow-brownish and not worth separating.

ab. charmione Stoll. Pap. Exot. Suppl. pt. 5. 1791. p. 162. pl. 36 f. 10.

= straminea Donovan. Brit. Ins. 1793. 2. p. 65. pl. 61 .

The ground colour yellow.

Donovan's straminea was pale yellow or bright clay.

ab. florentina Esper. Eur. Schmett. 1788. 4. (2). p. 422. pl. 135 f. 2.

The ground colour pale ochre-yellow.

Hardly different from the preceding but can be used for specimens intermediate between the yellow form and typical yellow-brown form.

ab. barbara Fabricius. Ent. Syst. 1794. 3. (2). p. 111.

According to the original description the forewings are ashy, with obsolescent submarginal band.

ab. pallida Cockerell. Entom. 1889. 22. p. 4. (description vol. 11. p. 24.)

The description merely says "Very light." Presumably very pale yellow.

ab. condolens Schawerda. Verh. zool.-bot. Ges. Wien. 1914. 64. p. 365.

Dark appearance; the reniform dark brown, the normally shadowy transverse band is red-brown or black-brown. The middle field brown, or reddish, toned. Hindwing with the marginal band deeper black and broader, the light spot absent.

ab. clarissima Turati. Atti. Soc. It. Sci. Nat. 1924. 63. p. 101. pl. 4. f. 6.

The forewings very pale sulphur-yellow with only the reniform stigma and apical patch apparent, the subterminal transverse band only indistinctly indicated, other markings extinct. Hindwings pale, the marginal band grey, the discoidal lunule showing conspicuously.

ab. aurantiaca Strand. Arch. Naturg. 1915. 81. A. 12. p. 143.

The hindwings orange-yellow.

ab. omicronata Richardson. Entom. 1958. 91. p. 211; pl. 4, f. 10.

On the forewings the usual dark costal patches are circular in shape and separated from the costa, standing out strongly against the pale central area. This is separated from the subterminal by a strongly pronounced darker band.



Noct. 245.
p. 1.

Heliothis Ochs.
armigera Hubner. Samml. Eur. Schmott.

aberrational forms etc.

armigera Hbn. typical form --- Hubner's figure shows the forewings pale greyish-ochreous with the subterminal band bluish-grey.

ab.fusca Cockerell. Entom. 1889. 22. p. 4. (description vol. 11. p. 24.)
The description merely says "a dark brown variety."

ab. ochracea Cockerell. Entom. 1889. 22. p. 4. (Ref. to pl. 3 f. 7. 4th. Rep. U. S. Ent. Com.)
Presumably ochraceous.
No description is given by Cockerell and I have not seen the plate referred to.

ab. rufa Warren. Seitz. 1911. 3. p. 246. pl. 50. row L.
Uniformly dull flesh-colour, with the lines and stigmata hardly visible.

oo Linn. Syst. Nat. 1758. Ed. 10. p. 507.

= ferruginago Hubner. Samml. Eur. Schm. 1800-03. pl. 41. f. 195.

aberrational forms etc.

oo Linn. typical form -- pale yellow with greyish oo marking. This is the Linnaean description and far from satisfactory. Hubner figured an insect under the name ferruginago which is probably the same but the markings are ferruginous as are practically all oo forms. Tutt separated this ferruginago Hbn. as an aberration with the space between the elbowed and subterminal lines showing a dark transverse shade. There is nothing of this sort in our copy of Hubner and, in my opinion, aberrations should not be based on the coloured figures of such early works which were meant to give a general idea of the species, the ground colour and markings often being much exaggerated.

ab. renata Fabricius. Ent. Syst. 1794. 3(2). p. 85.

Wings fuscous; oo and hinder stripe ashy. The same size as oo but the forewing fuscous, the ordinary spots in the middle, the oo mark and the hinder stripe ashy.

This form is omitted by most authors but suggested by others as the ab. renago of Haworth. If it is an oo form it is not Haworth's, which had the markings ferruginous. The description does not seem to fit any oo form and is best not used.

ab. renago Haworth. Lep. Brit. 1809. p. 438.

Similar to the ferruginago of Hubner (typical form) but with the wings more extensively saturated; the costa is partly yellow, the rest varied fuscous and ferruginous.

This is the more heavily marked form, with the space between the middle shadow-line and the subterminal, more or less filled with ferruginous, the base also shows a reddish-grey blotch.

ab. griseago Schultz. Soc. Ent. 1906. 21. p. 3.

Similar to ab. renago Haworth but the colour of the greater part of the forewing is grey, or dark grey, instead of brown-red or blackish-brown, on which the yellow stigmata stand out clearly. Transitional specimens have middle area with no dark shading, as similar specimens of ab. renago.

ab. olivacea Skala.

From the description given by Draudt in Seitz. 1935. 3. Suppl. p. 190. with no reference.

Completely suffused with olive-grey.

ab. rufocanago Dannehl. Ent. Z. 1926. 39. p. 184.

The rust-coloured darkening in the outer area (as seen in ab. renago Haw.) is here suffused with olive-grey.

So similar to Haworth's renago as to be unworthy of a name, Haworth did not state that the outer area was ferruginous, but that the wings were fuscous and ferruginous varied; most of our English specimens show some amount of grey in the red-brown of the outer area.

ab. rufescens Tutt. Brit. Noct. 1892. 3. p. 18.

Reddish-yellow, without the dark subterminal shade. The ground colour not whitish-yellow as in the type but of a warmer tone of yellow, tending to orange or red, markings as in the type with only the basal shade developed and with no subterminal shade.

Tutt cites Hubner's fig. 867 as being of this form which is an obvious error, the figure shows an extremely dark subterminal band united with the basal shade along the inner margin, looking like an exaggerated *ab. renago*, the opposite to Tutt's description.

ab. sulphurea Staudinger. Cat. Ed. 3. 1901. p. 203.

Unicolorous sulphur-yellow, sometimes the fringes chequered with brown.

Staudinger by "unicolorous" presumably meant there were no markings, we have such specimens from the Continent.

ab. conflua Holze. Int. Ent. Z. 1921. 15. p. 79.

= *juncta* Lempke. Tijdschr. Ent. 1942. 85. p. 81. (description vol. 82. p. 197.)

The orbicular and reniform stigmata are confluent, normally there is a space between them. It is reminiscent of *Cymatophora octogesima*, in which also the stigmata are united into the form of an 80.

For some strange reason Lempke states that the *ab. conflua*, in his opinion, is doubtless of the *semiconfluens* type, which has the stigmata joined by a double line. There is nothing to suggest this in Holze's description, in which he likens his form to *octogesima (ocularis)*, which has the stigmata merely touching each other. Lempke's *juncta* is therefore a synonym.



Noct.247.

Cosmia Ochs.

p.l.

pyralina Schiff. Wien Verz.1775.p.88.

aberrational forms etc.

pyralina Schiff. --- typical form -- ground colour dark purplish-brown.

ab.corusca Esper. Eur.Schmett.1788.4.(2).pl.135 f.4-5.(1789.p.424.)

Forewings bright reddish-brown.

The plate figures have priority over the text; on the plate the name is spelt corusca, in the text, published a year later, it is "corrusca". The figures are very good and show a much lighter form than Schiffermuller describes-"dark purplish-brown".

ab.arnoi Schawerda. Mitt.Munch.Ent.Ges.1924.14.p.100.

The forewings bright or light rose-brown.

Presumably lighter than the preceding.

ab.cuprea Hormuzaki. Ent.Nachrichten.1894.20.v.55.

The ground colour of the forewings very light coppery-red, not the usual dark cherry-brown. The black apical spot, usually very sharply marked, is either dark brown, obsolescent, or completely absent, and there is no trace of a whitish mixture near the costa or down the transverse line; the central area is not darker than the rest of the wing. Hindwings somewhat paler than normal.

ab.saturatebrunnea Strand. Arch.Naturg.1915.81.A 11.p.164.

Head, thorax, and forewings browner.

A very vague description, of little use.

ab.obscura Hoffmann & Kloss. Schmett.Steierm.1915.3.p.141.

The ground colour black-brown, without the white transverse stripes.

ab.fuliginosa du-Bois-Reymond. Zts.Wiss.Ins.1931.26.p.39.

The ground colour is completely devoid of the shining copper-red or brown tones; it is, on the contrary, unicolorous sooty-grey. The marking is present.

Noct. 248.
p. 1.

Cosmia Ochs.

affinis Linn. Syst. Nat. 1767. Ed. 12. p. 848.
= *diffinis* Hubner. Beitr. 1786-89. 1. p. 24. pl. 4 f. T.

aberrational forms etc.

affinis Linn. typical form --- the ground colour ferruginous, with white spots on the costa.

ab. ochrea Tutt. Brit. Noct. 1892. 3. p. 21 & 22.

Pale ochreous-brown or ochreous-brown with white costal spots or streaks.

ab. obsoleta-ochrea Tutt. Brit. Noct. 1892. 3. p. 22.

Pale ochreous-brown, the white costal marks merged into the ground colour.

ab. suffusa Tutt. Brit. Noct. 1892. 3. p. 21 & 22.

= *affineola* Strand. Arch. Naturg. 1915. 81. A 11. p. 164.

The forewings dark grey, instead of the reddish or reddish-brown of the typical form. The white costal streaks are presumably present since the form without them is separated by Tutt as *obsoleta-suffusa*, the following form.

ab. obsoleta-suffusa Tutt. Brit. Noct. 1892. 3. p. 22.

Dark grey, as the preceding, but with the white costal marks absent.

ab. nigrimaculata Warren. Seitz. 1911. 3. p. 230 pl. 47 row d.

= *subaffineola* Strand. Arch. Naturg. 1915. 81. A 11. p. 164.

The forewing marked by patches of black scales in the basal area, along the cell and vein 1, before and below the orbicular, beyond the reniform in the angle of the outer line, and more slightly before the termen.

ab. affinella Strand. Arch. Naturg. 1915. 81. A 11. p. 164. (See Lempke, Tijdschr. Ent. 85. p. 86) Forewings in the costal field, on the outer side of the postmedian line, whitish suffused.

Lempke in Tijdschr. Ent. 85. p. 86 restricts the name to the fine form in which the white costal marks are clearly enlarged (almost as in *C. diffinis*), independent of ground colour.

ab. morleyi Porritt. Ent. Mon. Mag. 1923. 59. p. 88.

= *nigrata* Schawerda. Verh. zool.-bot. Ges. Wien. 1927. 77. p. (82).

Head, thorax body and forewings dark chocolate-brown to almost black; the white costal marks sometimes present but often, perhaps in most cases, partially or entirely wanting. Hindwings with the basal portion the colour of the forewings but the outer margin broad and black.

Schawerda's *nigrata* had the forewings as deep black as the hindwings, the markings still to be seen, especially on the costa, grey.

ab. bredemanni Warnecke. Ent. Anz. 1933. 13. p. 95.

Hindwings with the basal half of the same black as the marginal half; normally the basal area is distinctly paler. The forewings are normal.

Possibly a northern subspecies but the author does not say if the typical form is found. Described from the Friesian Islands.

ab. obsoleta Lempke. Tijdschr. Ent. 1942. 85. p. 86.

Forewings reddish, the white costal marks absent.

Noct. 249.
p. 1.

Cosmia Ochs.

diffinis Linn. Syst. Nat. 1767. Ed. 12. p. 848.
= affinis Hubner. Beitr. 1787. 1. p. 10. pl. 1. E.

aberrational forms etc.

diffinis Linn. typical form ---- forewings ferruginous with costal white spots,
and 2 black spots on the outer margin (apex).

ab. confinis Herrich-Schaffer. Syst. Bearb. 1845. 2. p. 224. pl. 87. f. 450.

In appearance, between affinis and diffinis. The colour more that of diffinis
but not so pale yellowish but more violet-grey, the markings more as in affinis,
the white spots on the costa however are larger than in diffinis and there is
a white longitudinal streak running from the break in the subterminal line
inwards towards the base. Hindwings paler than normal.

The figure shows an insect very much like diffinis but paler, the colour shading
from grey to pale purplish grey, the white lines and costal spots prominent.
Described from Turkey.

Noct. 250.
p. 1.

Cosmia Ochs.

trapezina Linn. Syst. Nat. 1758. Ed. 10. p. 310.

aberrational forms etc.

trapezina Linn. typical form --- pale ochreous-grey, with a black spot in the middle of the "triangle", and small spots on the margins, the triangle somewhat darker than the rest of the wing.

ab. pallida Tutt. Brit. Noct. 1892. 3. p. 22 & 23.

Whitish or ochreous-grey with the transverse lines obsolete.

ab. rufo-pallida Tutt. Brit. Noct. 1892. 3. p. 23.

= rubella Krulikowsky. Bull. Soc. Nat. Moscow. (1893) 1894. p. 80.

Whitish or ochreous-grey, the central area between the complete basal and angulated lines, forming a reddish band.

ab. ochrea Tutt. Brit. Noct. 1892. 3. p. 23.

Bright ochreous (slightly reddish), or deep yellow-ochreous, sometimes with a reddish tint. The transverse lines distinct.

ab. obsoleta-ochrea Tutt. Brit. Noct. 1892. 3. p. 23.

Bright ochreous (slightly reddish) with the transverse lines obsolete.

ab. rufa Tutt. Brit. Noct. 1892. 3. p. 23.

Forewings deep red, the transverse lines distinct.

ab. obsolete-rufa Tutt. Brit. Noct. 1892. 3. p. 23.

Forewings deep red, the transverse lines obsolete.

ab. grisea Tutt. Brit. Noct. 1892. 3. p. 23.

Dark grey, with darker transverse lines.

ab. carnea Warren. Seitz. 1911. 3. p. 230. pl. 47 row f.

Pale forewings with all the shadings, especially the thick median shade, delicate flesh colour.

ab. conspersa Warren. Seitz. 1911. 3. p. 231. pl. 47 row g. (Lempke-Tijd. Ent. 85. p. 82)

Forewings either pale ochreous, yellow ochreous or reddish, very strongly dusted with dark scales. Lempke restricts the name to specimens which are reddish.

ab. nigra Tutt. Brit. Noct. 1892. 3. p. 23.

Forewings entirely deep blackish-grey, with fainter transverse lines.

ab. ochrea-conspersa Lempke. Tijdschr. Ent. 1942. 85. p. 82.

Forewings yellowish, strongly powdered with black scales. By this name Lempke restricts conspersa Warren to the form in which the forewings are reddish with strong black dusting, which makes a different impression.

ab.aurantia Lempke. Tijdschr.Ent.1942.85.p.82.

The ground colour of the forewings orange,the markings distinct.

ab.lutescens Wehrli. Verh.Nat.Ges.Basel.1917.28.p.241.

The entire hindwing glossy yellowish,without the normal grey.

ab.postnigra Cockayne. Ent.Rec.1951.63.p.161.pl.5 f.9.

The normally grey or brownish part of the hindwing is intensely black. The contrast between the pale forewings and the black hindwings is remarkable.

ab.fasciata Erschoff. Trudy Ent.Ross.1882.12.p.207.

= badiofasciata Teich. Stett.Ent.Z.1883.44.p.173.

= nigro-virgata Tutt. Brit.Noct.1892.3.p.23.

The ground colour of the forewings light,the entire middle area filled with dark brown to blackish,standing out sharply.

ab.obscura Aurivillius. Nord.Fjar.1887-88.p.161.

Similar to the preceding but the ground colour reddish,the median area black-brown. Hardly worthy of separation from fasciata,the main character being the filled-in median area.

ab.conjuncta Cockayne. Ent.Rec.1951.63 p.161.

On the forewing the black dot at the lower end of the reniform is extended as a black line to the lower end of the orbicular.

Noct. 251.
p. 1.

Enargia Hbn.

paleacea Esper. Eur. Schmett. 1788. 4(1). p. 343. pl. 122 f. 3-4.
= fulvago Hbn. (nec. Linn.) Samml. Eur. Schmett. 1800-03. pl. 41 f. 198
199

aberrational forms etc.

paleacea Esper. typical form -- the forewings yellow or pale ochre-yellow.

ab. angulago Haworth. Lep. Brit. 1809. p. 239.

The forewings golden.

Most probably a synonym of the type but most authors make it the richer, orange-yellow form.

ab. citrina Cockayne. Ent. Rec. 1951. 63. p. 161.

The forewings pale yellow or straw colour, the markings normal.

ab. teichi Krulikowsky. Bull. Soc. Nat. Moscow. (1893.) 1894. 81.

On the forewings the median space is reddish or fuscous.

This presumably means the area between the transverse lines is filled in, since Krulikowsky named the form in C. trapezina (ab. rubella) with the same description, this form, quite well-known, has the triangle on the forewings filled completely with reddish.

ab. fusca Schultz. Soc. Ent. 1899. 14. p. 139. (see Soc. Ent. 1900. 14. p. 165. form fixed)
The extreme form of ab. teichi Krul. The median, and outer marginal field, of the forewing of a violet-brown colour. Hindwings darkened towards the base.

In his first description of fusca Schultz gave the same description as that of teichi Krul., but mentioned a more extreme form in which the dark colour not only invaded the median area but spread to the outer margins. Later, in the same volume, he explained that he did not know of ab. teichi Krul. at the time of writing, but that it must be a transitional form to his ab. fusca. He therefore restricted his name fusca to the more extreme specimen with the brown occupying about two thirds of the wing.

ab. postulkae Skala. Ent. z. 1929. 42. p. 317.

Characterised by the lack of markings.

This probably means they are very weak or absent.

Noct. 252.
p. 1.

Calamia Hbn.

tridens Hufnagel. Berl. Mag. 1766. 3. p. 300.
= virens Linn. Syst. Nat. 1767. ed. 12. p. 847.

subspecies occidentalis Cockayne. Ent. Gaz. 1954. 5. p. 155.

subsp. occidentalis Cockayne. - the race from the Burren, Co. Clare, smaller and blue-green instead of the yellow-green of the typical form, which does not occur in Britain. The forewing with white reniform, the fringe never pure white but showing a coloured line, from grey to red-brown, inside it. Hindwing grey, not white

ab. immaculata Staudinger. Cat. Ed. 2. 1871. p. 99.
Unicolorous green, without the white reniform spot.

ab. bimaculata Krulikowsky. Bull. Soc. Nat. Moscow (1893) 1894. p. 65.
Forewing with two white spots, the reniform distinct, the other, small and round, in the cell.

ab. rufata Warren. Seitz. 1911. 3. p. 241.
The normally white reniform is filled with rufous-fuscous or edged with rufous. The whole hindwing brownish-grey with the fringe white.

ab. thalassina Warren. Seitz. 1911. 3. p. 241. pl. 48 row g.
The outer half of the fringe of the forewings greenish, the hindwing green flushed with darker green.
These two specimens are in the Tring collection and, in my opinion, are certainly artefacts, they appear to have been dipped in a green liquid, the fringes being unevenly stuck together.

ab. rubrociliata Schawerda. Mitt. Munch. Ent. Ges. 1931. 21. p. 56.
The inner half of the fringe red-brown, the white reniform red-brown surrounded. All our Irish specimens, subsp. occidentalis Cockayne, show this character, the name therefore cannot be applied to our race. Other characters mentioned by Schawerda also agree with our specimens, the hindwings for instance, are grey particularly towards the outer margin, in the typical form they are white. It is possible that our Irish specimens originated from Spain, the same form appears to occur there as an aberration.

ab. flava Wohlfahrt. Ent. Z. 1925. 39. p. 36.
Forewings yellow with a pale brown line inside the white fringes, orbicular absent, reniform pale, outwardly edged with pale brown. Towards the base yellow-green suffused, thorax and head yellow-green, antennae yellow, abdomen and hindwings dirty pale yellow-green.
Specimens which have been in contact with moisture can go yellow but since the antennae are also yellow the form would seem to be genuine.

ab. decolorata Caradja. Iris. 1929. 43. p. 63.
Thorax and forewings whitish with a very slight greenish suffusion in the middle area; costa and outer margin, also the apex, with a rosy shimmer.

Noct. 253.
p. 1.

Lenobia Jken.

retusa Linn. Faun. Suec. 1761. p. 321.
= *vetula* Hubner. Beitr. 1788. 1(3). p. 13. pl. 2 f. H.

aberrational forms etc.

retusa Linn. typical form -- the forewings olive-greyish, with three pale stripes

ab. *gracilis* Haworth. Lep. Brit. 1809. p. 251.

The forewings brown (fuscous) with two main stripes less distinct than normal. Tutt, Warren and other authors, probably copying Tutt, say this form is reddish-tinted, but there is nothing in the original description to suggest this. Haworth describes it as fuscous, whereas his *retusa* is greyish-fuscous. If *gracilis* is to be considered an aberration it is merely more brown than the type form.

ab. *grisea* Lempke. Tijdschr. nt. 1942. 85. p. 87.

The forewings dark grey.

This would seem little more than a synonym of the type since the Linnaean description was ashy-grey, not olive-brownish as Lempke states in his Catalogue.

ab. *nictitans* Lempke. Tijdschr. Ent. 1942. 85. p. 87.

The circumscription of the stigmata, and the transverse lines, strikingly pale, sharply contrasting.

Noct. 254.
p. 1.

Zenobia Oken.

subtusa Schiff. Wien Verz. 1775. p. 88.

aberrational forms etc.

subtusa Schiff. typical form ---- forewings olive-grey or greyish-fuscous.

ab. pallida Tutt. Brit. Noct. 1892. 3. p. 20.

Forewings pale whitish-grey, with scarcely a trace of the olive tint generally present, and no suggestion of fuscous.

ab. grisea Lempke. Tijdschr. Ent. 1942. 85. p. 87.

Ground colour of the forewings pure dark grey.

ab. rufescens Lempke. Tijdschr. Ent. 1942. 85. p. 86.

The ground colour of the forewings reddish-grey.

ab. rufolineata Lempke. Tijdschr. Ent. 1942. 85. p. 87.

The transverse lines and circumscription of the stigmata reddish-yellow.

ab. obsoleta Lempke. Tijdschr. Ent. 1942. 85. p. 87.

The circumscription of the stigmata completely absent or almost so.

ab. semiconfluens Lempke. Tijdschr. Ent. 1942. 85. p. 87. (description vol. 82. p. 197)

The stigmata united by a double line, instead of joining.

aberrational forms etc.

lutosa Hbn. typical form -- Hubner's figure shows a very pale form, rather strongly tinted with pink, probably an exaggeration. No black dusting and no row of black spots in the postmedian area.

ab. pilicornis Haworth. Trans. Ent. Soc. Lond. 1812. 1. p. 336.

= bathyerga Boie. Isis 1835. 28. p. 323.

= bathyerga Freyer. Neu Beitr. 1836. 2. p. 122. pl. 170 f. 1.

Forewings reddish-grey, (cinereo-rufescentibus), scarcely dusted, with six small fuscous spots forming an outer curved stripe. Hindwings white.

Boie's bathyerga was pale straw coloured, with a curved row of dark spots. The hindwings pale, the row of spots becoming extinct.

Freyer received his specimen, figured as bathyerga, from Boie, so presumably it is the same. The figure shows the forewings pale straw with a row of dark spots, the upperside of the hindwings in our copy shows a pinkish suffusion which may or not be due to the artist trying to give the sheen seen on lutosa in certain lights. Neither of these bathyerga are different enough to separate from pilicornis.

ab. crassicornis Haworth. Lep. Brit. 1809. p. 173.

Haworth says this form is very similar to the figure in Hubners Samml. Eur. Schmett. pl. 85 f. 396., except in size and the antennae. This figure shows heavy dark dusting at the base of the forewing stretching out ray-like along the inner-margin and middle vein, to the centre of the wing. Haworth's description only mentions the wings being dusted with numerous inconspicuous fuscous atoms. There are six larger points or dots in a curved line in the outer area and the wings are greyish-red. Hindwings fuscous with yellowish fringes.

ab. vectis Curtis. Brit. Ent. 1833. 10. p. 459 fig.

Pale ochreous, the forewings alternately marked with numerous ochreous and cream lines, the nervures being pale; the central nervure suffused with reddish-ochre, also the one next the inner margin which is slightly freckled with black; a fuscous dot at the disc and a curved line of dots in the outer area, the margin bears 7 black dots. Hindwings white slightly tinted with ochre and freckled with brown below the centre where there is a pale spot shining through from beneath; the obscure line of fuscous dots is continued across the wing and there are a few black dots on the margin.

ab. cannae Stephens. (nec. Ochs.) Ill. Haust. 1829. 3. p. 73.

Misidentified as cannae Ochsenheimer by Stephens but since most authors use the name as an aberration of lutosa it is included here.

Forewings pale reddish, or yellowish-ash, with a few minute dusky atoms, with some larger spots at base and a row still more distinct towards the outer margin forming an arcuated striga; in the middle of the disc a single spot of similar hue. Hindwings reddish or yellowish-ash.

Differs from the following rufescens Tutt in having the transverse row of well defined dots across the forewing.



ab. rufescens Tutt. Brit. Noct. 1891. l. n. 55 & 56.

Forewings reddish or reddish-ochreous without longitudinal shades and without a transverse row of dots so the markings are practically obsolete, as in the type.

ab. rufescens-suffusa Tutt. Brit. Noct. 1891. l. p. 55 & 56.

Forewing reddish-ochreous, with a transverse row of dots and strongly developed longitudinal shades as in ab. crassicornis.

ab. lechneri Rebel. Berge's Schmett. 1910. Ed. 9. p. 226. (fig. Tijdschr. Ent. 41. pl. 2 f. 3)

Forewings thickly black-grey dusted, only the veins, a streak on the median fold and a longitudinal spot in the cell remaining pale.

The figure is very good.

ab. strigata Rebel. Berge's Schmett. 1910. Ed. 9. p. 226. (fig. Tijdschr. Ent. 41. pl. 2 f. 2)

With a toothed outer transverse line on all wings, also, on the forewings, some indication of an anti-median line.

Turner seems to think this the result of "a deposit of fluid which saturated the body and spread along the wings irregularly.", but we have specimens agreeing exactly with the description and figure.

ab. rufovenosa Schille. Zts. Wiss. Ins. Biol. 1918. 14. p. 120.

The chief character of this form would appear to be the broad reddish veins and similarly coloured fringes, on the completely dark grey hindwings. The forewings are ochre-yellowish-grey with paler veins and outer row of black spots, dark grey suffused on the hind-margin and a similarly coloured streak running from the base below the median nervure, reaching the end of the cell.

ab. postradiata Cockayne. Ent. Rec. 1952. 64. p. 191. pl. 8. f. 10.

The hindwing, with the exception of the basal area, is thickly powdered with black scales and the nervures are very black, leaving the internodal spaces pale and giving a radiated appearance. On the forewing there is a broad black subcostal streak running outwards from the base and another black streak running along the median nervure and extending on either side of it; from both these streaks thin black lines run on each side of the nervures out to the termen; there is a third shorter and broader black streak, not so well defined, running along vein 1. The chief character, as in the preceding form, would appear to be the radiated hindwing.

ab. maxima Horm.

& Alexinschi. Bull. Fac. Sti. Cernauti 1930. 4. p. 308. fig.

Noct. 256.
p. 1.

Arenostola Hampson,

pygmaea Haworth. Lep. Brit. 1809. p. 176.
= *fulva* Hubner. Samml. Eur. Schm. 1809-13. pl. 106 f. 496.

aberrational forms etc.

pygmaea Haworth. typical form -- forewings reddish, hardly veined, hindwings fuscous.

fulva Hubner is hardly separable from *pygmaea*, the figure being far too bright to be of much use, it is meant to represent the reddish form since Herrich-Schäffer refigures it far less bright and describes it as red. Tutt however invents the colour "rose" for Haworth's *pygmaea* and separates Hubner's *fulva* as being extremely bright brick-red and, later, as bright ferruginous-red. As mentioned before it seems quite impossible to name an aberration of colour on the hand-painted figures in the older works, which vary in individual copies.

ab. *fulva* Hubner. Samml. Eur. Schm. 1809-13. pl. 106 f. 496.

Treated here as a synonym of the type but many authors, Tutt, Warren, Lempke, etc make it an aberration, on the strength of Hubner's richly coloured figure and describe it as "fulvous rufous", "extremely bright red or brick-red", "bright rust-red or bright red-brown" and "rich rufous".

If desired the name can stand for the reddest examples but in my opinion Haworth gave his name to the red form and Hubner's figure is an exaggeration on the part of the artist.

ab. *pallida* Stephens Ill. Haust. 1829. 3. p. 78.

Forewings ochraceous-white, the costa and central nervure obscurely fuscous. Hindwings whitish with a slight ashy tinge towards the outer margin.

ab. *concolor* Tutt. Brit. Noct. 1891. 1. p. 44 & 45. (see Entom. 1888. 21. p. 222)

The correct reference for this form is Brit. Noct (as above) not Entom. 21, which is Guenee's description of *concolor* (extrema), not a *fulva* form. Tutt in his Brit. Noct. states that he gives the name *concolor* Tutt to the whitish form in the present species, with the following description -

A whitish form, with or without transverse row of dots, with or without longitudinal shade.

ab. *neurica* Stephens Ill. Haust. 1829. 3. p. 79.

Forewings ochraceous or pale fusco-rufescent, with a bifid fuscous cloud at the base, enclosing a whitish space; the nervures, especially towards the apex, slightly fuscous; an arcuated row of minute blackish dots in the outer area. Hindwings pale whitish-ash, the outer margin rather darker.

ab. *ochracea* Tutt. Brit. Noct. 1891. 1. p. 44 & 45.

Forewings bright yellow-ochreous, without longitudinal shades and with only the faintest trace of the transverse row of dots.

ab. *ochracea-suffusa* Tutt. Brit. Noct. 1891. 1. p. 44. 45.

Forewings bright yellow-ochreous, the spaces between the nervures powdered with dark scales, having the appearance of dark longitudinal shades.



ab. *punicea* Tutt. Brit. Noct. 1891. 1. p. 45.

Forewings pinkish-grey with the row of transverse dots more or less developed but without longitudinal shades.

ab. *punicea-suffusa* Tutt. Brit. Noct. 1891. 1. p. 45.

Forewings pinkish-grey, with the spaces between the nervures powdered with dark scales having the appearance of longitudinal shades, as in *ochracea-suffusa* Tutt.

ab. *fusca* Lempke. Tijdschr. Ent. 1942. 85. p. 73.

Ground colour of the forewings black-brown.

ab. *transversa* Staudinger. Cat. Ed. 3. 1901. p. 190.

Dull reddish-grey to reddish, with two distinct blackish transverse lines. Described from Esthonia and possibly a subspecies there. Some English specimens show the transverse dots almost linking up into lines on the outer row, so the form may possibly occur here as a rare aberration.

ab. *nigropicta* Huene. Stett. Ent. Zts. 1901. p. 157 is almost certainly the same since Huene sent specimens to Staudinger but Draudt in Seitz 3. Suppl. p. 192 *transversa* Stgr. in *pygmaea* and *nigropicta* in *fluxa* Hubner. Both forms are from Esthonia.

ab. *lutea* Cockayne. Ent. Rec. 1951. 63. p. 161.

Ground colour of the forewings is clear yellow, with no trace of rufous.



Noct. 257.
p. 1.

Arenostola Hampson.

extrema Hubner. Samml. Eur. Schmett. 1803-08. pl. 88 f. 412.
=concolor Guenee. Noct. 1852. 5. p. 103.

aberrational forms etc.

ab. radiata Wagner. Int. Ent. 3. 1922. 16. p. 39.

Forewings showing along the veins an accumulation of dark scales giving a radiated appearance. Similar to the ab. nigristriata Stgr. of *Senta maritima*.

ab. depunctata Lempke. Tijdschr. Ent. 1942. 85. p. 74.

The row of dots in the place of the outer transverse line fails.

Between 1890 and 1891, the
population of the United States was 62,629,000.

Estimated 1890-1891

The following table shows the
population of the United States
in 1890, 1891, and 1892.

The population of the United States
in 1890 was 62,629,000.

Noct. 258.
p. 1.

Arenostola Hampson.

fluxa Hubner. Samml. Eur. Schmett. 1808-09. pl. 88. f. 413.
= *junci* Boisduval. Ind. Meth. 1840. p. 134.

fluxa Hubner. typical form -- forewings bright red-brown. The figure is bad. *junci* Boisduval is made a synonym because, according to Guenee, the specimen was devoid of scales, so the description "pale straw" is deceptive.

ab. saturata Staudinger. Cat. Ed. 2. 1871. p. 167.
Forewings dark reddish-brown, often totally red.

ab. hellmanni Eversmann. Bull. Soc. Nat. Moscow. 1843. 16. p. 548.
Forewings stone colour, similar to *L. lithargyrea* (*sordide lithargyreae*)
The colour is dirty, greyish ochreous, the tint of the less reddish form of *lithargyrea*. Turner calls it the "grey" form, but *lithargyrea* is hardly grey, and says Tutt describes it as grey, which is not so, Tutt gives Staudinger's description which is "pale, greyish or reddish straw-colour".
The form is as common in England as the redder forms, probably more so.

ab. expressata Krulikowsky. Rev. Russe Ent. 1907. 7. p. 11. (Soc. Ent. 23. p. 11.)
Forewings with strongly emphasised black transverse lines.

ab. pulverosa Warren. Seitz. 1911. 3. p. 236. pl. 49 f.
The grey dusting very strong, the dots of the outer line obsolete, and the veins dark.



Noct. 259.
p. 1.

Arenostola Hampson.

morrisii Dale. Naturalist 1837.2.p.88.
= *bondii* Knaggs. Trans. Ent. Soc. Lond. 1861.5.p.133.

aberrational forms etc.

ab. impura Schwingenschuss. Verh. zool.-bot. Ges. Wien. 1923.73.p.(28).
Forewings with a spot-like, black-grey, darkening in the middle field along the veins, and streak-like darkening in the cells in the outer area.

error -

ab. obscura Schwingenschuss. (Draudt in Seitz 3. Suppl. p. 192.)
Draudt includes this form in error, it belongs to *Agrotis latens* Hbn.



Noct. 260.
p. 1.

Arenostola Hampson.

elymi Treitschke. Schmett. Eur. 1825. 2, p. 294.

aberrational forms etc.

ab. saturatior Staudinger. Stett. Ent. Zts. 1889. 50, p. 47.

Described as an ab. and subsp., from Russia. Forewings darker mixed, and stronger marked than typical form; hindwings darker blackish-grey.

Staudinger cites Oberthur Etudes 5, pl. 9 f. 2 as belonging to this form but the figure in no way answers to his description. Turner has named this figure as a race - askoldensis - because of its smaller size and the row of little dots on the nervures of the hindwings.

ab. depunctata Nordstrom. Svenska Fjarilar. 1940, p. 192.

The row of black spots, in the outer area of the forewing, absent.

ab. renifera Nordstrom Svenska Fjarilar. 1940, p. 192.

The reniform fairly distinct.

Noct. 261.
p. 1.

Arenostola Hampson.

brevilinea Fenn. Ent. Mon. Mag. 1864. 1. p. 107.

aberrational forms etc.

ab. *sinelinea* Farn. Entom. 1878. 11. p. 103.

The short black line at the base of the forewing absent.
This is sometimes referred to as *alinea* in label lists.

ab. *typica-suffusa* Edelsten. Ent. Rec. 1902. 14. p. 103.

Suffused with dark smoky-grey scales.

ab. *typica-nigrofasciata* Edelsten. Ent. Rec. 1902. 14. p. 103.

Nervures 2-5 edged with black, making a longitudinal fascia, more or less connected with central spot and basal dash.

ab. *typica-bilinea* Edelsten. Ent. Rec. 1902. 14. p. 103.

The lowest spot of the ante-median transverse row, and the lowest of the post-median row, run into each other or unite, to form a black dash or streak, above the inner margin.

This must be a rare form.

ab. *typica-pallida* Edelsten. Ent. Rec. 1902. 14. p. 103.

Powdered with light scales, especially along the costal margin.

ab. *typica-rufescens* Edelsten. Ent. Rec. 1902. 14. p. 103.

Ground colour of the forewings reddish.

ab. *sinelinea-suffusa* Edelsten. Ent. Rec. 1902. 14. p. 103.

Forewings without basal line and suffused with dark smoky-grey scales.

ab. *sinelinea-nigrofasciata* Edelsten. Ent. Rec. 1902. 14. p. 103.

Forewings without basal line, the nervures 2-5 edged with black, making a longitudinal fascia, more or less connected with the central spot and basal line

ab. *sinelinea-pallida* Edelsten. Ent. Rec. 1902. 14. p. 103.

Forewings without basal line, powdered with light scales, especially along the costal margin.

ab. *sinelinea-rufescens* Edelsten. Ent. Rec. 1902. 14. p. 103.

Forewings without basal line, the ground colour reddish.

ab. *sinelinea-ochracea* Edelsten. Ent. Rec. 1902. 14. p. 103.

Forewings without basal line, the usual row of dots slightly indicated, the ground colour light ochraceous, slightly dusted with black scales.

phragmitidis Hubner. Samml. Eur. Schm. 1800-03. pl. 47 f. 230.
= semicana Esper. Eur. Schm. 1804. 4. (2). n. 34. pl. 189. f. 5.

aberrational forms etc.

phragmitidis Hbn. typical form -- forewings yellowish with rather broad reddish outer margins.

Since there is some doubt about semicana Esper it is placed provisionally as a synonym, although the margins are not red. It is possibly another species.

? ab. verecunda Eversmann. Bull. Soc. Nat. Moscow. 1848. 3. p. 219.

The description as regards colour and pattern is practically the same as Tutt's pallida, the following form, but doubt is raised as to its species by Eversmann's statement that it is "the same size and shape as L. pallens" which phragmitidis is not. If it is phragmitidis, it has priority over pallida Tutt. Forewings unicolorous pale or whitish-yellow. Hindwings somewhat brownish except on costa.

ab. pallida Tutt. Entom. 1888. 21. p. 254.

Forewings of a pale unicolorous whitish-ochreous, with a slight greenish tinge, perfectly clear and unspotted, and no trace of red.

ab. rufescens Tutt. Entom. 1888. 21. p. 254.

Forewings entirely suffused with rich deep red, the outer margin being slightly darker. Hindwings bright shiny grey, with paler nervures.

ab. olivescens Warren. Seitz. 1911. 3. p. 235.

Forewings smooth olive-grey, the hindwings dark grey.

We have the type in the R.C.K. collection at Tring and it does not agree with the description, the forewings showing little or no grey, and the hindwings are not dark grey.

ab. morawitzii Menetries. Enum. Corp. Anim. Mus. Petrop. Lep. (3). 1863. pl. 16 f. 8.

The figure shows the forewings very pale, almost white, over the basal third, gradually becoming more dusky towards the outer margins where they are blackish-grey, with no tint of red or yellow. If the figure is to be relied on it is an extraordinary form; there is no text except that Morawitz says that the specimen was worn but probably a phragmitidis.

ab. maculata Jarnecke. Neue Beitr. Syst. Ins. 1922. 2. p. 93.

Forewings showing in the region of the reniform a small dark, dull ochre-yellow to yellow-brown spot, and an orbicular of similar colour. Both dark spots stand out sharply from the pale straw-yellow surrounding area.



Noct. 263.

Oria Hubner.

p. l.

musculosa Hubner. Samml. Eur. Schmett. 1803-08. pl. 78 f. 363.
= frumentalis Lindemann. Bull. Soc. Nat. Moscow. 1883. l. p. 145.

aberrational forms etc.

musculosa Hubner. typical form -- the figure of Hubner is very bad, it would seem to suggest a yellow ground with greenish-grey stripes, not sandy-brown as most of our British specimens show.

frumentalis Lindemann had the forewings pale yellowish scaled with two white longitudinal lines.

ab. flava Freyer. Neu. Beitr. 1846. 4. p. 142. pl. 370 f. 2.

Forewings fawn or faded yellow, varying to pale brown, the two stigmata white, the longitudinal stripes white; all the veins brown and clearly marked. Hindwings dirty white to brown-yellow.

This is the form usually found in England. Whether or not Hubner's figure is meant to represent this is impossible to say, it is separated here as being sandy-brown without the grey tint.

ab. olivina Alpheraky. Oberth. Lep. Comp. 1913. 7. p. 233. pl. 194 f. L.

Forewings grey-olive, with the ordinary markings of the type white-yellowish.

ab. dirini Alpheraky. Oberth. Lep. Comp. 1913. 7. p. 233. pl. 194. f. M.

Forewings reddish-yellow or rust coloured, the longitudinal streaks whitish.

The figure shows the wings almost orange with a slight brown tint. Alpheraky says the figure of this and the preceding are a true likeness.

Noct. 264.
p. 1.

Monagria Ochs.

algae Esper. Eur. Schmett. 1789. 4(2), p. 441. pl. 140 f. 1 & 2.
= cannae Ochsenheimer. Schmett. Eur. 1816. 4. p. 82.
= russa Eversmann. Bull. Soc. Nat. Mosc. 1847. 3. p. 79.

aberrational forms etc.

algae Esper typical form --- male with forewings rufous, female forewings pale ochraceous; the veins blackish, a series of blackish spots towards the margin. Esper's plate was issued long before the text; Borkhausen gave a description of the figure in 1792 but Esper was the author.

ab. brunneo-ochraceus Strand. Arch. Naturg. 1915. 81. A 11. p. 165.
Pale brownish-ochraceous slightly tinged with rufous.
Presumably a male form with the appearance of the female.

ab. fusca Bowles. Ent. Rec. 1898. 10. p. 287.
= fumata Warren. Seitz. 1911. 3. p. 238. pl. 49, row K.
Male-forewings very dark fuscous-brown with the markings scarcely visible. In the female fuscous-brown, the markings distinct.
Warren's fumata had the forewings, especially in the male, dark brown or black-brown.

ab. rosea Bowles. Ent. Rec. 1898. 10. p. 287.
Male - forewings, fringes of hindwings, of a warm red. Female suffused with a rosy shade. Much brighter in fresh specimens, fading later.

ab. liturata Warren. Seitz. 1911. 3. p. 238. pl. 49 row K.
Forewings with both lines complete and dentate throughout, the median vein thickly black.
The figure is bad and does not agree with the description.

ab. obsoleta Bowles. Ent. Rec. 1898. 10. p. 287.
Described from single female. Forewings pale yellow, wainscot markings wanting, except the two lowest black dots.

ab. impunctata Lempke. Tijdschr. Ent. 1941. 84. p. 344.
On the forewings the outer row of black dots fails.
A slightly more extreme form than the preceding.



aberrational forms etc.

sparganii Esper. typical form -- forewings yellowish with faint reddish tint, dusted with dark scales; a crescent shaped spot in place of the reniform and an outer row of dark spots.

ab. obsoleta Tutt. Brit. Noct. 1891. 1. p. 53.

= *'uniformis* Dufrane. Lamb. 1935. 35. p. 54.

Forewings pale ochreous as in the type, sparingly scaled with fuscous scales, the nervures simply a little more dusky than the ground, the black lunule and all the markings of the central area, obsolete, the two transverse rows of dots fainter than in the type. Dufrane's form had only the external row of dots.

ab. impunctata Turner. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (155).

= *immaculata* Dufrane. Lamb. 1935. 35. p. 54.

Forewings with no trace of the outer row of black dots parallel with the margin. Dufrane's form had the spots forming the lines, even the external one, absent.

ab. bipunctata Tutt. Brit. Noct. 1891. 1. p. 53.

Forewings pale ochreous with no trace of the normal dark shade along the median nervure and no scattered black scales. A short black line on the median nervure, just before the centre of the wing, above which can be traced the faintest possible outline of the orbicular; the black lunular mark (which is the lower part of the reniform) and this short black line stand out conspicuously, making two distinct characters on the plain ground. The outer row of dark dots less distinct than the row placed just within the fringe.

ab. rufescens Tutt. Brit. Noct. 1891. 1. p. 54. (see Hubner Eur. Schm. fig. 549)

= *rufescens* Strand. (nom. preoc.) Arch. Naturg. 1915. 85. A 11. p. 165.

= *rufescentella* Strand (nom. nov. pro *rufescens* Strand). Lamb. 1927. 27. p. 86.

The ground colour much suffused with reddish-ochreous, the characteristic markings and fuscous shade under the median nervure generally strongly developed. These red varieties are exceedingly suffused-in some instances-with fuscous scales under all the nervures and the hindwings especially in the males, are sometimes very dark. Hubner figures this red form, fig. 549.

Strand names the red form--strongly suffused with reddish, hindwing suffused with black except the terminal area. This seems no different from Tutt's *rufescens*, but Strand, finding that Tutt had used the name, re-names his own *rufescens* "*rufescentella*" without apparently realizing that the forms were the same.

ab. rosea Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct). p. (155).

Forewing with normal markings but pale pink with a slight orange tint, the nervures paler pink. Hindwings pale ochreous-white.

ab. lutea Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct.) p. (155).

Forewing with normal markings but the ground colour bright clear sulphur. Hindwings paler yellow with black suffusion at the base.

ab. rufa Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (156)

Forewings with normal markings but the ground colour rich, deep, coppery red. Hindwings pale reddish, with dark grey streaks from base to centre of wing.

ab. nigrostriata Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (156).

Colour as in type. A black streak under the median nervure from the base to the postmedian row of dots; a fine blackish line just inside the hind-margin (inner-margin?) and another just below costa. Hindwings with distinct black-grey streaks from base to centre of wing.



ab. roseoradiata Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (156).

Colour as in type but the black lines below costa and above hind-margin (inner-margin ?) replaced by streaks of purplish-red colour, the dark shade under the central nervure also suffused with purplish-red, which spreads out on to the adjacent areas of the wing, so that the major portion is red or red-suffused yet the pale ground colour, quite free from scattered red scales, is present as two pale wide streaks, one just above the central nervure, and the other halfway between the dark shading under the median nervure and the inner margin. Hind-wing pale smoky-ochreous with distinct black-grey streaks from base to centre and tinged with pink.

ab. deleta Wightman. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (156).

Similar to the preceding, with streaks of purplish-red colour below costa and above inner margin, but the dark shade under the central nervure is absent.

ab. clara Turner. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (155).

Extremely light in ground colour. The hindwings are very pale straw, almost white, with just a uniform slightly creamy tinge. The forewings are only slightly darker, ochreous cream, without any suggestion of rufous, brown or pink. The marginal and antemarginal lines of black points are complete, only three dots in the lower part of the reniform are present and a dark scale or two represent the basal transverse line.

ab. unimaculata Dumont. Bull. Soc. Ent. France. 1926. p. 168.

Forewings with the marginal line of black points alone well marked but less strongly than in the type; the postmedian row is scarcely indicated by a minute point on each nervure; the reniform is only represented by a black mark made up of four dots. There is a complete absence of the powdering or dusting on the nervures.

ab. obscura Dufrane. Lamb. 1935. 35. p. 54.

Forewings uniformly sprinkled with grey-reddish atoms, the spots forming the external line only just visible. Hindwings very dark.

ab. nigrosignata Cockayne. Ent. Rec. 1952. 64. p. 192. pl. 8 f. 11.

On the forewing there is a short black streak at the base running along the median nervure; there is a black spot between nervures 2 & 3, and another occupying the lower end of the reniform; there is an oval black spot in the upper part of the reniform, the external outline forming the external outline of the stigma, and there are scattered black scales uniting this with the black spot in the lower part; along the termen there is a row of black interneural dots, from each of which dark scales run out into the inner half of the fringe.

ab. nigrescens Horch

Verh. Ver. Naturw. Heimatforsch. Hamburg.

. 23. p. 20

Noct. 266.
p. 1.

Nonagria Ochs.

typhae Thnbg. Ins. Suec. (Dissert) 1784. 1. p. 3.
= arundinis Fabr. Mantissa 1787. 2. p. 141.
= latifolia Lang. Verz. Ed. 2. 1789. p. 142.

aberrational forms etc.

typhae Thnbg. typical form -- light brownish grey, with fuscous striation.

? ab. nervosa Esper. Eur. Schmett. 1790. 4(2). p. 479. pl. 148 f. 1.

Most authors include this as a form of typhae but in my opinion it is not.
Esper figures the dark form of typhae on an earlier plate (pl. 40 fig. 5) as a var.,
and the typical forms - figs. 3 & 4, and therefore knew the species well. The
figure of nervosa has black hindwings and Esper's description says they are
unicolorous black-grey, a colour I have never seen in typhae hindwings, the form
is therefore not included here. Borkhausen renamed nervosa Esper as Phalaena
fraterna and here again the description is not satisfactory for the dark brown
typhae, the forewings were light grey-brown, the hindwings grey-brown.

ab. fraterna Treitschke. Schmett. Eur. 1835. 10. (2). p. 99.

This seems the most satisfactory name and author for the dark brown to blackish
form. The description says "unicolorous brown or blackish, and almost markingless".
Various authors give Borkhausen as the author but his description does not fit
the dark form of typhae, the forewings being described as light grey-brown and
the hindwings grey-brown. Borkhausen's fraterna is the same as Esper's nervosa
which on account of its blackish hindwings is not included here.

ab. obsoleta Dufrane. Lamb. 1932. 32. p. 83.

On the forewings the black spots before the submarginal line are completely
effaced, or reduced to barely a few black atoms.

ab. punctata Dufrane. Lamb. 1932. 32. p. 83.

On the forewings the black spots before the submarginal line are large, very
black, and extended.

geminipuncta Haworth. Lep. Brit. 1809. p. 176.
 = *guttans* Hubner. Samml. Eur. Schm. 1814-17. pl. 137. f. 628, 629.

aberrational forms etc.

geminipuncta Haworth. typical form -- forewings reddish-fuscous, the inner margin more rufous. Two white spots in the reniform.

ab. paludicola Hubner. Samml. Eur. Schm. 1814-17. pl. 136 f. 624. (nec. pl. 139 f. 637). The figure shows the forewings dark brown, the reniform edged on its inner side with white and not separated into the two spots of the type form. The veins towards the outer margin dusted with white, probably somewhat exaggerated. Hubner figures another *paludicola*, a male, which is nothing like the first figure a female, it has orange-brown costa and inner margin, with no white on the veins, see pl. 139 f. 637.

ab. unipuncta Tutt. Entom. 1888. 21. p. 226.

Like the type but with only the lower half of the reniform white, therefore with only one white point.

ab. obsoleta Tutt. Entom. 1888. 21. p. 226.

Like the type but with the white twin spots, characteristic of the type, altogether absent.

ab. pallida Tutt. Brit. Noct. 1891. 1. p. 51.

Forewings pale reddish-ochreous with two white spots in the reniform.

ab. pallida-unipuncta Tutt. Brit. Noct. 1891. 1. p. 51.

Pale reddish-ochreous with only one white spot in the reniform.

ab. pallida-obsoleta Tutt. Brit. Noct. 1891. 1. p. 51.

Pale reddish-ochreous, with no white spots in the reniform.

ab. rufa Tutt. Brit. Noct. 1891. 1. p. 51.

Clear reddish-brown, two white spots in the reniform.

ab. rufa-unipuncta Tutt. Brit. Noct. 1891. 1. p. 51.

Clear reddish-brown, one white spot in the reniform.

ab. rufa-obsoleta Tutt. Brit. Noct. 1891. 1. p. 51.

Clear reddish-brown, reniform without any white dots.

ab. fusca Tutt. Brit. Noct. 1891. 1. p. 51.

Forewings blackish-fuscous or sooty-black and the reniform with two white spots.

ab. fusca-unipuncta Tutt. Brit. Noct. 1891. 1. p. 51.

Forewings blackish-fuscous or sooty-black, with one white spot in the reniform.

ab. nigricans Staudinger. Cat. ed. 1, 1861. p. 46. (Samml. Eur. Schm. pl. 136 f. 624). Forewings blackish. Staudinger cites Hubner's *paludicola*, Samml. Eur. Schm. fig. 624, which however shows white dusted veins in the marginal area of the forewing. In his Cat. ed. 2, Staudinger says the form is totally blackish, the reniform indistinct.



ab. nigropunctata Krombach. Int. Ent. Z. 1920. 13. p. 180.

The reniform and orbicular each showing as a black spot.

Futt's *obsoleta*, which had the two white spots in the reniform absent, presumably had no orbicular although this is unlikely, practically all *geminipuncta* showing a small black dot. The present form can only be separated from *obsoleta* by the reniform and orbicular being very definite black spots, it is more than probably a synonym of *obsoleta*.

ab. jaeschkei Warnecke. Int. Ent. Z. 1929. 23. p. 7. fig.

Forewings with distinct dark doubled transverse lines, which border the middle field on both sides, therefore on the basal, as well as the outer-marginal, side.

Noct. 268.
p. 1.

Monagria Ochs.

dissoluta Treitschke. Schm. Eur. 1825. 5(2). p. 319. (citing
Hubner. 3. Eur. Schm. f. 659-61)
= hessii Boisduval. Ind. Meth. 1840. p. 134.
= brunnescens Rangnow. Int. Ent. 4. 1934. 27. p. 531.

aberrational forms etc.

dissoluta Treitschke. typical form -- forewings black-brown, figs. 659-661 in Hubner. Samml. Eur. Schm. pl. 144. The underside showing a dark discoidal on all four wings. This is the melanic form, much less common than the light form ab. arundineta Schmidt, in Britain.

ab. arundineta Schmidt. Stett. Ent. 4. 1858. p. 369. (H. - S. Syst. Bearb. 2. pl. 68 f. 247-8) Forewings brownish-yellow. The common form in Britain, the females less marked with blackish dusting, especially in the middle area; in the males there is a horizontal line, or streak, of dark brownish or blackish dusting, from the base almost to the margin.

ab. flava Turner. Ent. Rec. 1930. 42. Suppl. (Brit. Noct) p. (147). Forewings yellow with the dark markings suppressed. The usual colour is a rufous, tending to pinkish, and not yellow without pinkish tinge.

ab. rosea Tutt. Entom. 1888. 21. p. 225.

Like the light form ab. arundineta but the whole of the forewings suffused with a rich rosy colour.

Described under neurica Hubner, the name used for this species at Tutt's time of writing. For neurica Hbn., see the next species Noct. 269.

ab. striata Lempke. Tijdschr. Ent. 1941. 84. p. 347.

Ground colour of the forewings brown-yellow to brown, with dark suffused costa and strong dark suffusion along the median vein.

Noct. 269.
p. 1.

Nonagria Ochs.

neurica Hubner. Samml. Eur. Schmett. 1803-08. pl. 82 f. 351.
=edelsteni Tutt. 1908. 20. p. 164.

aberrational forms etc.

neurica Hubner. typical form --forewings greyish-brown.

ab. rufescens Edelsten. Ent. Mon. Mag. 1911. 47. p. 207.
"Reddish form".

ab. fusca Edelsten. Ent. Mon. Mag. 1911. 47. p. 207.
"Blackish-brown form."

ab. nigra Wightman. Ent. Rec. 1931. 43. p. 106.
"An extreme black form, quite distinct from ab. fusca Edelsten." Forewings intense black, unicolorous, except for two small white dots present in the type and aberrations of this species. Hindwings nearly as dark as the forewings; the thoracic crest white as in the typical form.

ab. pallida Lempke. Tijdschr. Ent. 1941. 84. p. 346.
Forewings pale yellowish-brown.

Noct. 270.
p. 1.

Coenobia Stephens.
rufa Haworth. Lep. Brit. 1809. p. 260.

aberrational forms etc.

rufa Haworth. typical form -- forewings unicolorous rufous. No mention is made of a fuscous longitudinal streak.

ab. despecta Treitschke. Schmett. Eur. 1825. 5(2). p. 311.

Forewings dirty yellow-brown with strong gloss, rust coloured towards the fringes.

This is the original description by Treitschke; Hubner's figure of it, and Herrich Schaffer's description and figure, do not agree with it in colour. Tutt and Turner apparently did not know of Treitschke's description since they give only Hubner as author.

ab. lineola Stephens. Ill. Haust. 1829. 3. p. 123.

Forewings greyish-red, with a longitudinal fuscous streak at the base and a faint transverse row of minute fuscous spots.

Stephens obviously used the name "lineola" because of the longitudinal fuscous streak. Haworth does not mention this in his description of rufa so Stephens presumed it had no streak; it must be assumed that it is not present in the type.

ab. pallida Tutt. Entom. 1888. 21. p. 208.

= pallescens Tutt. Entom. 1888. 21. p. 209.

"A pale grey form with no trace of red." Tutt named this form again as "pallescens" on the next page with the description - varying from pale grey to almost white, without a trace of the rufous.

ab. fusca Bankes. Ent. Rec. 1909. 21. p. 4.

= rubicundipennis Strand. Lep. Catalogus. 1912. part 5. p. 45.

Forewings dark fuscous, somewhat tinged with red. Hindwings dark grey, paler towards the base.

Strand named Hampson's ab. 1, which was Bankes's Dorset form fusca.

Noct. 271.
p. 1.

Chilodes. Herrich-Schaffer.

- maritima Tauscher. Mem. Mosc. 1806. 1. p. 178. pl. 13 f. 5.
- = ulvae Hubner. Samml. Eur. Schmett. 1814-17. pl. 139 f. 655-36.
pl. 145 f. 666-668.
- = sericea Curtis. Brit. Ent. 1828. 5. p. 201.

aberrational forms etc.

maritima Tauscher. typical form --- forewings greyish.
ulvae Hubner--the two sets of figures are so different, obviously by different artists, that it seems best to make it a synonym of the type

? ab. anella Stephens. Ill. Haust. 1834. 4. p. 297.

There is too much doubt about this form to include it in this species. Wood figured it in his Ind. Ent. 1839. no. 1437. p. 207. and this is a Pyrale, in which family Stephens himself placed it. Hampson seems to have been the first to place it as *maritima*, followed by Warren in Seitz. The insect was captured in the Jew's Burial Ground at Stepney, not a likely place for a reed-loving species like *maritima*.

ab. bipunctata Haworth. Trans. Ent. Soc. Lond. 1812. 1. p. 337.

= nigromaculata Schmidt. Stett. Ent. Z. 1858. 19. p. 361.

Forewing with two black spots, one near the centre, the other beyond the centre. Schmidt's *nigromaculata* had quite black stigmata and a black longitudinal streak at the base.

ab. combinata Edelsten. Ent. Rec. 1910. 22. p. 149. pl. 6. f. 3.

= spormanni Heydemann. Int. Ent. Z. 1926. 19. p. 359. pl. 3 (Heydemann). fig. 29.

A combination of ab. *bipunctata* Haworth and *nigrostriata* Staudinger. Heydemann's *spormanni* had deep black stigmata and black streaks between the veins as in ab. *nigrostriata* Stgr.

ab. nigrostriata Staudinger. Cat. Ed. 2. 1871. p. 107.

Forewings with many fine black streaks running parallel with the veins.

ab. nigricostata Staudinger. Cat. Ed. 2. 1871. p. 107.

Forewings with a broad black stripe along costa.

ab. wismariensis Schmidt. Stett. Ent. Z. 1858. 19. p. 361.

Forewings with a broad black longitudinal streak from the base to the subterminal area, enclosing the stigmata, which however are whitish-margined and quite recognisable. The streak narrows to a point at the base but is broad and concave at the subterminal end.

ab. conjuncta Rangnow. Int. Ent. Z. 1912. 6. p. 190.

On the forewings the two black spots of ab. *bipunctata* Haworth are united by a broad black bar.

ab. obsoleta Wightman. Ent. Rec. 1941. 53. p. 15.

Unicolorous, the white, and slightly darker lines, of the typical form, are absent; there is a faint row of dots along the outer margin and postmedian, and the two stigmata can just be seen.

- tenebrata Scop. Ent. Carn. 1763. p. 230.
- = domestica Hufn. Berl. Mag. 1766. 3. p. 83.
- = arbuti Fabr. Syst. Ent. 1775. p. 616.
- = policula Lang. Verz. 1782. p. 159.
- = fasciola Esper. Eur. Schmett. 1790. 4(2). p. 555. pl. 163 f. 1.
- = heliaca Hubner. Samml. Eur. Schmett. 1800-03. pl. 64 f. 316.

aberrational forms etc.

tenebrata Scop. typical form -- hindwings yellow band occupying about one third of the wing, the basal third black, the marginal third black with white fringe. Forewings brown with varied markings.

Entom.

ab. albescens Cockerell. 1889. 22. p. 126. (see Newman Brit. Moths. p. 442.)
The yellow of the hindwing replaced by white.

ab. nigrescens Cockayne. Ent. Rec. 1944. 56. p. 56.
The yellow of the hindwings replaced by blackish-brown.

ab. flavescens Dannehl. Ent. Z. 1933. 47. p. 19.
The band of the hindwings is pale yellow, not deep yellow of the type. The specimen fresh, not faded.

ab. obscura Spuler. Schmett. Eur. 1907. 1. p. 279.
The yellow band of the hindwing reduced to barely a third of its usual size.

ab. satiata Dannehl. Ent. Z. 1933. 47. p. 19.
Forewings unicolorous dull, dark brown, the markings completely suppressed, the pale area in the central part of the wing absent.

- trabealis Scop. Ent. Carn. 1763. n. 240.
= sulphuralis Linn. Syst. Nat. 1767. Ed. 12. p. 381.
= arabica Hufn. Berl. Mag. 1767. 3. n. 412.
= sulphurea Schiff. Wien Verz. 1776. p. 93.
= trabeata Bkh. Scriba Beitr. 1791. 153. pl. 10 f. 8.
= lugubris Fabr. Ent. Syst. 1793. 3. p. 467.

aberrational forms etc.

ab. confluens Warren. Seitz. 1913³ pl. 52. fig. row g.
Warren does not mention this form in his text. The figure shows some of the black spots united, the median black horizontal line is thicker than usual and includes the spot usually separated, and just above it. The insect appears darker than normal although actually it is not very different from the typical form. The Type is in the Rothschild coll. at Tring.

ab. nigricostata Stauder. Ent. Anz. 1924. 4. p. 110.
Forewings with the whole costal margin broadly black, swallowing up the three black costal spots.
Draudt and Turner wrongly give Strand as author.

ab. crassistriga Stauder. Ent. Anz. 1924. 4. p. 110.
Forewing with the normal yellow streak, which lies between the two black longitudinal bars, completely filled up with black
As in the preceding, Draudt and Turner give Strand as the author instead of Stauder.

ab. unculata Dannehl. Ent. Z. 1926. 40. p. 15.
Transitional to ab. nigra Erschoff, the following form. Forewing with the black spots so united that, besides the outer transverse line, only a short submarginal line remains; for the rest, all the black markings are concentrated into a broad bar along the median vein from the base as far as the outer transverse line, and a similar bar along the costa. Between these black bars there only remains fine yellow lines in the form of hooks.

ab. nigra Erschoff. Lep. Fedschenko's Voyage. 1874. p. 52. pl. 3 f. 50.
Forewings almost wholly black, only the subterminal area somewhat paler.
We have two specimens of this form from Russia, the wings show a strong gloss.

- fasciana Linn. Faun. Suec. 1761. p. 342.
- = pygarga Hufn. Berlin Mag. 1766. p.
- = strigilis Schaeffer. Icones 1769. pl. 179 f. 4-5.
- = polygramma Esner. Eur. Schm. 1790. 4(2). p. 470. pl. 146 f. 7.
- = praeduncula Borkh. Eur. Schm. 1792. 4. p. 175.
- = fuscula Hbn. Samml. Eur. Schm. 1800-03. pl. 60. f. 297.
- = fusca Haworth. Lep. Brit. 1809. p. 261.

aberrational forms etc.

fasciana Linn. typical form -- forewings greyish-brown, with wide white fascia.

ab. albilinea Haworth. Lep. Brit. 1809. p. 261.

The white blotch at the anal angle of the forewing reduced, only a white edge to the postmedian (elbowed) line, remaining; the subterminal almost obliterated.

ab. guenei Fallou. Ann. Soc. Ent. Fr. 1864. p. 27. pl. 1. f. 3.

The ground colour of the tint of fresh nuts or wood-coloured brown, mixed with darker brown, principally in the median area, the stigmata very pale, almost white. The elbowed line is followed by a clear space, in which the indistinct subterminal line is absorbed.

The figure shows the ground colour yellowish-brown with normal blackish marking but the usual white blotch at the anal angle completely absent, only a faint trace of white remaining on the upper part of the postmedian line, as a very fine edgeing.

This form is very close to the preceding ab. albilinea but more extreme, there being even less white on the postmedian line. It was described originally as a Bryophila but Fallou later declared it an aberration of E. fuscula (fasciana).

ab. sordida Hannemann. Int. Ent. Z. 1917. 10. p. 146.

Paler or lighter; forewings, hindwings and abdomen, yellowish-grey suffused. The description is vague, the form may be a dilute.

ab. ochrea Derenne. Lamb. 1928. 28. p. 78.

Forewings of a brown-red, with the entire lower part of the subterminal and terminal areas, and also the fringe, light yellow. All the areas which, in the type form are white, are in this form light yellow.

ab. albomarginata Spuler. Schm. Eur. 1907. 1. p. 294.

The white area, or blotch, at the anal angle of the forewing, extended to beyond the subterminal line and up to the costa, so that the outer area of the wing is almost completely white.

ab. brunnescens Lempke. Tijdschr. Ent. (1946). 1949. 90. p. 89.

Ground colour of the forewings clear dark brown, circumscription of the stigmata white, sharp, narrow, white postmedian line from costa to inner margin. Presumably the white blotch at the anal angle is present.



- olivana Schiff. Verz. 1775. n. 126.
- = bankiana Fabr. Spec. Ins. 1781. 2. p. 275.
- = argentula Hubner. Beitr. 1787. 1(2). n. 9. pl. 2 f.
- = olivea Hubner. Samml. Eur. Schm. 1800-03. n. 1. 60. f. 492.

aberrational forms etc.

olivana Schiff. typical form -- olive-green with two silver stripes.

ab. rufescens Tutt. Brit. Noct. 1892. 4. p. 7.

The normal olive-green ground colour replaced by reddish-brown.

ab. obsoleta Tutt. Brit. Noct. 1892. 4. p. 7.

This is not the same as oblitescens Schultz, Turner gives a wrong description. The two transverse white lines reduced in width, becoming very narrow and almost linear.

ab. oblitescens Schultz. Ent. Z. 1907. 21. p. 78.

The two transverse lines of the forewing showing a reduction in their length, so that they do not reach either the costa or the inner margin. Mostly only one stripe is so affected.

Turner gives Tutt's description of obsoleta for this form.

ab. confluens Schultz. Ent. Z. 1907. 21. p. 79. figs. n. 78 A, B, C.

Schultz describes three very different forms under this one name, all showing gradations of the joining-up of the two transverse lines of the forewing. The first fig. A shows the two lines joined by a horizontal white bar in the middle of the wing. Fig. B. shows the two lines completely united in their upper half but still divided by ground colour in the lower half. In fig. C the two white lines are completely joined throughout their entire length, forming one broad stripe.

Schultz says that since these are all forms pointing to the eventual confluence of the stripes, they should have the same covering name, although their appearance is so different.

ab. nigrosparsata Osthelder. Schm. Sudbayern. 1917. p. 346 pl. 16 f. 15.

The silver bands strongly covered over with black.

The figure shows the silver lines black dusted, especially in their lower halves

ab. funeraria Draudt. Seitz. 1935. 3. Suppl. p. 207. pl. 23 row b.

The silvery white stripes appear leaden-black from the olive-brown ground colour, or are even completely obliterated.

The figure shows the stripes faintly indicated.

ab. uniformis Draudt. Seitz. 1935. 3. Suppl. p. 207. pl. 23 row b.

All the markings invisible, except a very fine white subapical oblique streak and indications of a whitish submarginal line.



ab. albescens Draudt. Seitz. 1935. 3. Suppl. p. 207. pl. 23 row b.

Forewings with the basal and marginal thirds almost pure white, so that the silvery-white transverse lines almost disappear therein and only an oblique pale brownish central band remains.

ab. nowickii Schille. Polsk. Pismo Ent. 1925. 2. p. 109.

The forewings are only blackish-brown in the basal and central areas, marginal area glossy silvery-white like on the transverse bands, only dusted with blackish-brown between the veins.

Description from Seitz, I have not seen the original.

ab. tripuncta Jost. Ent. Z. 1950. 60. p. 30. fig. 2.

The silvery-white stripes of the forewing reduced to so great an extent that there only remains three white spots, in the positions of the stigmata -- the reniform is the largest, the orbicular and claviform about half the size of the reniform; all three are finely black edged.

ab. signata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 92.

The two white lines of the forewing bordered on both sides by a fine black line.

ab. edentata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 92.

The inner white line of the forewing straight, without projections.

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- uncula Clerck. Icones 1759. pl. 3. f. 7.
= uncana Linn. Faun. Suec. 1761. Ed. 2. p. 342.
= singularis Hufn. Berl. Mag. 1766. 3. p. 396.
= unca Schiff. Wien Verz. 1775. p. 91.

aberrational forms etc.

uncula Clerck. typical form --forewings fuscous-brown, the stripes etc., whitish.

ab. obscurior Spuler. Schmett. Eur. 1907. 1. p. 293.

Forewings with the ground colour darkened to red-brown, the inner marginal stripe darker tinted and the other light markings somewhat brownish tinted.

ab. lineola Dannehl. Ent. Z. 1926. 40. p. 15.

On the forewings the outer of the two white lines, which form the white outer-marginal stripe, is covered or suffused so that only the inner one is left, as a fine silvery-white line.

ab. rufotincta Kolb. Mitt. Munch Ent. Ges. 1930. 20. p. 61 & 62.

Red form. Forewings suffused with red-brown especially towards the costal stripe. The costal stripe is more or less reddish suffused, in some individuals almost rosy, and the light whitish shading on the marginal side of the outer line fails completely, often there is a pronounced reddish band. Hindwings are rather weakly reddish suffused, the fringes in particular show a reddish sheen.

ab. clarivittata Nordstrom. Svensk. Fjarilar. 1940. p. 200.

Forewings with the transverse line and waved line, instead of being separated by a fine dark line, are united to form one broad whitish outer marginal band.

ab. triangulata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 91.

The orbicular and reniform joined by a whitish line, so that a dark triangle is cut off.

ab. pupillata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 91.

The reniform stigma with a dark centre.

Most of our specimens shows some dark shading in the reniform, Lempke presumably means something more extreme, otherwise the form was hardly worth naming.



Noct. 277.
n. 1.

Earias Hubner.

clorana Linn. Faun. Suec. 1761. Ed. 2. p. 343.
= viride Retz. Gen. Spec. Ins. 1783. n. 52.

aberrational forms etc.

ab. flavimargo de Joannis. Bull. Soc. Ent. France. 1908. p. 46. (Fig. Ann. Soc. Ent. Fr. 1908
pl. 15 fig. 7.)

The external margin of the forewings is narrowly bordered with yellow, sometimes
with some brown at the base of the fringe.

ab. hemixantha de Joannis. Ann. Soc. Ent. Fr. (1908) 1909. 77. p. 752. pl. 15 f. 8.

An extreme form of the preceding in which the yellow of the border extends over
almost all of the wing.

The coloured figure shows more than half the wing yellow.



- fagana Fabricius. Spec. Ins. 1781. 2. p. 276. (female).
 = prasinana (auct. nec. Linnaeus.)
 = viridis-lineata Retz. Gen. Spec. Ins. 1783. p. 45.
 = sylvana Fabricius. Ent. Syst. 1794. 3(2). p. 244. (male)

aberrational forms etc.

fagana Fabricius. typical form -- the female showing three white oblique stripes, the male only the outer two, with the termen ferruginous. This is the Continental form, the British form is separated by Warren as subsp. britannica. See below.

subsp. britannica Warren. Seitz. 1913. 3. p. 297. pl. 53 row k.

All three lines of the forewing silvery white, the costal and inner margins of the male are reddish only at apex and tornus respectively.

The latter character is not constant, some of our English specimens show the outer margin red from apex to tornus.

116)

ab. millieri^e Capronnier. Ann. Soc. Ent. Belg. 1883. 27. p. XCIX. (Fig. Mill. Icones. 3. pl. 1.
 = rubrostrigata Rebel. Berge's Schmett. 1910. Ed 9. n. 423. (Fig. Mill. Icones. pl. 116.)
 = rufilinea Warren. Seitz. 1913. 3. p. 297. pl. 53 row k. (ab. 2. Hampson Cat. Lep. XI.)
 The coloured figure in Milliere's Icones vol. 3. pl. 116 f. 1, from which the first two authors described their forms, shows the red tint of the fringe extending in a well developed degree along the inner margin and up the postmedian line to the costa, especially towards the latter, and along it to the apex of the wing. Warren's rufilinea had the outer (postmedian) line marked with red. This was described by Hampson as "ab. 2." in his Cat. Lep. Phalaenae. 11. p. 514.
 Warren made "millieri Capronnieri." a synonym of the type form but it is the same as his rufilinea, and has priority over it.

ab. trilinea Cockayne. Ent. Rec. 1951. 63. p. 161. pl. 5 f. 2.

The three oblique white lines are broader than usual and very sharply defined; the ground colour is darker green and the pale shading in the median area and elsewhere is almost entirely absent.

ab. leucozona Cockayne. Ent. Rec. 1951. 63. p. 161. pl. 5 f. 1.

On the forewing there is a broad white band in the median area bordered on each side by an oblique green line, separating it from the first and second oblique white lines; on the distal part of the wing there is more white than usual; in most examples it is entirely white with the exception of two green oblique lines the basal area is green. All the examples are females.

ab. anargyria Cockayne. Ent. Rec. 1951. 63. p. 161.

The silvery-white stripes of the forewing are absent in the male and absent, or almost so, in the female, being replaced by pale green.

ab. argyrozona Richardson. Ent. Rec. 1952. 64. p. 271. pl. 11 f. 25.

Forewings crossed by a broad silvery-white band in which traces of green are visible at the upper and lower ends. This band is formed by a fusion of the first and second white cross-lines, which are otherwise absent; the third line is present and is especially pronounced at its upper end.

? *ab. bilineata* Slevogt. Soc. Ent. 1901. 16. p. 57. (not a *fagana* form.)

By the description this form is almost certainly the same as *fiorii* Costantini which, from our series in the Rothschild coll., is a different species although Lempke includes it in *fagana*. Our series were named *hongarica* by Warren (Soitz 3. p. 297) which is said to be a synonym of *fiorii* Costantini. If *bilineata* is the same, it has priority over *fiorii*. None of these is treated here as an aberration of *fagana*, the form similar to it in *fagana* is *ab. bilinea* Richardson, which is obviously a *fagana* form and looks quite different from the series of *fiorii* (*hongarica*) from Hungary.

ab. bilinea Richardson. Ent. Rec. 1952. 64. p. 271. pl. XI f. 26.

Forewings crossed by two sharply defined lines, the ante and postmedian, of which the first does not quite reach the costa; the ground colour is quite smooth without clouding.

ab. caerulea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 100.

The ground colour of the wings blue-green.

ab. flava Spuler. Schmett. Eur. 1906. 2. p. 126.

Forewings bright yellow, with darker yellow costa, inner-margin, and oblique lines; the margins red-yellow.

? *ab. xanthophilana* Obraztsov. Iris (1942) 1943. 56. p. 157.

Forewings yellow, differing from the preceding *flava* Spuler by having no red-yellow margins and no darker yellow costa and inner margin.

ab. alba Thierry-Mieg. Ann. Soc. Ent. Belg. 1910. 54. p. 386. (fig. Mill. Iconog. 3. pl. 116.)

The name was given to the figure in Milliere's Iconographie 3. pl. 116 f. 2 which shows a female with the forewings completely white, with three pearly lines; the thorax and body also white, antennae reddish.

ab. albidula Strand. Arch. Naturg. (1916) 1917. 82. A 1. p. 90.

Almost wholly white. ♀.

This is the only description given by Strand and is vague; it may mean very pale green, or part of the wing white with the rest green. The form was named from Hampson's *ab. 3* which has the same description.

ab. dorsilutea Strand. Arch. Naturg. (1916) 1917. 82. A 1. p. 90.

Forewings without pink on the costal area towards apex, the inner margin yellow. Taken from Hampson's *ab. 2*.

ab. flavociliata Obraztsov. Ent. Z. 1950. 60. p. 74.

Forewing fringes yellow instead of reddish.

ab. rubrociliata Obraztsov. Ent. Z. 1950. 60. p. 72.

♀ form. The entire forewing fringes are completely red-brown, as in the ♂. The inner margin is also reddish.

Noct. 279.

Pseudoina Hubner.

p. 1.

- prasinana Linn. Faun. Suec. 1761. Ed. 2. p. 342.
- = prasina Poda. Mus. Graec. 1761. p. 93. pl. 2 fig. 10.
- = bicolorana Fuessly. Verz. 1775. p. 41.
- = quercana Schiff. Wien Verz. 1775. p. 125.

aberrational forms etc.

Swedish Lapland, June 1892. I have been
= visiting the old Sámi settlements, and
= collecting Sámi folk songs, legends, etc.
= The Sámi people are still very poor and
= live in the same old huts as their ancestors.

Swedish Lapland, June 1892.

aberrational forms etc.

revayana Scop. typical form -- forewings grey-greenish with fuscous longitudinal lines.

This must be an exceptionally rare form.

revayana Schiff. Wien Verz. 1775. n. 130. (nom. preoc. Scop.)

= riugana Fabricius. Mantissa. Ins. 1787. 2. p. 233.

= rivagana Fabricius. Ent. Syst. 1794. 3(2). p. 266.

Schiffermuller says that the insect has many variations, from grey with a red central spot. He was apparently referring to revayana Scop. as a species and not one particular form.

Fabricius refers to Schiffermuller's description in both the references given above but the spelling would seem to be printer's errors, both riugana and rivagana might easily be "revayana" with the "i" and "g" wrongly printed. The names cannot be made synonyms of the type form since Scopoli's revayana is grey-greenish, it would be best not to use them.

ab. ramosana Hubner. Samml. Vogel u. Schmett. 1793. pl. 75. (Eur. Schmett. Tortr. fig. 10)

= ramulanus Stephens. Ill. Haust. 1834. 4. n. 147.

Forewings brownish-grey with dark fuscous longitudinal branched streaks and discal spot.

ab. grisea Ter Haar. Onze Vlinders. 1900. n. 65.

= diluteramosanus Schwingenschuss. Zts. Wien Ent. Ges. 1953. 38. p. 285.

The forewings grey, therefore lighter than the preceding, otherwise similar, with the fuscous branched longitudinal streaks.

Schwingenschuss form had the pale grey ground of dilutana Hbn.

ab. cladodes Sheldon. Entom. 1919. 52. p. 101. pl. 1. f. 3. (Barrett. 6. pl. 151. f. 3c.)

Form paler than the typical ramosana Hbn. Barrett's figure is an extremely light form probably representing the extreme xanthism in Britain.

The form with grey ground, and therefore paler than typical ramosana, cannot be included under this name since Ter Haar has already named it grisea, apparently without Sheldon being aware of it, he does not mention grisea in his long article.

ab. atrata Sheldon. Entom. 1919. 52. p. 101. pl. 1. f. 2.

= fuscoramosanus Schwingenschuss. Zts. Wien Ent. Ges. 1953. 38. n. 285.

The ground colour darker than in ramosana Hbn., the black streaks and shading cover almost the whole of the wing. The darkest of the ramosana group.

Schwingenschuss form had the ground colour black-grey.

ab. sagittata Sheldon. Entom. 1919. 52. p. 101. pl. 1. f. 4.

Forewings grey, the streak, which runs obliquely to the apex, not finishing before the margin in the usual manner, its outer side strongly toothed or sagitate, is dark fuscous.

ab. strigatanus Schwingenschuss. Zts. Wien Ent. Ges. 1953. 38. p. 285.

Forewings with grey ground, the streak deep black and running from base obliquely across the wing to the apex, 2 mm. broad in its middle.

Probably the same as the preceding but no mention is made of the sagitate edging of the streak on its outer side.



ab. combinata Cockayne. Ent. Rec. 1951. 63. p. 162.

= gloriosanus Schwingenschuss. Zts. Wien Ent. Ges. 1953. 38. p. 285.

This combines the streaked pattern of revayana with that of bifasciana Donovan, which has transverse lines.

Schwingenschuss form was a combination of the streaked pattern of ramosana Hbn. with that of obscura Warren which has transverse lines; the ground colour pale grey.

ab. stoninus Curtis. Guide Brit. Ins. 1829. p. 205.

= stonanus Stephens. Ill. Haust. 1834. 4. p. 147.

= stonanus Curtis. Brit. Ent. 1840. 2nd. Ed. no. 29.

Forewings brown with the black branched streak of ramosana and a waved fuscous striga across the disc.

Sheldon figures what he thinks this form to be in Entom. 52. pl. 1 f. 5. This shows the ramosana streak, and a vague blackish transverse shade from the middle of the costa to the inner margin, but in addition there is a continuation of the black on the costa right up to the apex, in the form of a second black streak; this apparently is not connected with Curtis form since it is not mentioned in his description. All the specimens I have seen with this fuscous striga across the disc, also have the costal black streak.

ab. russiana Duponchel. Cat. Meth. Lep. Eur. 1844-46. p. 284. fig. Hist. Nat. Lep. France 1834. 9. pl. 265. f. 3b. p. 556.

This form was named in Duponchel's Cat. Lep. with reference to his earlier description and coloured figure in Hist. Nat. Lep. Fr. where it was not named.

Forewings of a very pale watered green, or white-greenish, with a large number of grey undulations over the entire surface, and a longitudinal black-brown streak from the base to a little beyond the middle of the wing, where it divides into two branches which incline downwards towards the anal angle. The fig. is good.

ab. dilutana Hubner. Samml. Eur. Schmett. Tortr. 1796. pl. 2. f. 6.

Forewings ground colour grey, the base narrowly reddish-brown and a central fascia of the same colour, the subterminal line indistinctly fuscous.

ab. fusculana Schmid. Corresp. blatt Zool. Mineral. Ver. Regensb. 1885. 39. p. 75.

The chief character of the form is the black, short, oblique streak from the base of the forewing to a point about one third along the inner margin.

The form was originally described as similar to the preceding dilutana with the addition of the black basal streak, but it occurs in other groups as well. This form is figured in Wood's Ind. Ent. fig. 1042, under the name lathamianus.

ab. obsoleta Sheldon. Entom. 1919. 52. p. 103. pl. 1. f. 6.

Similar to dilutana Hbn., except that it is without the dark base to the forewings and the dark transverse bands are not so well developed.

ab. lathamiana Swederus. K. Vet. Acad. Nya Handl. 1787. 8. p. 276.

Forewings pale red-brown (testaceous), the base, and outer margin, from the apex, showing a row of black spots; a ferruginous fascia in the median area.

No mention is made of a central black spot

ab. aurana Richardson. Ent. Rec. 1952. 64. p. 273. pl. XI. f. 12.

Resembling ab. fusculana Schmid which show a short oblique basal streak, but differs markedly by its very pronounced orange-brown colouring, only a faint trace of the normal purple remains in the post-discal area.

ab. *ilicana* Fabricius. Spec. Ins. 1781. 2. p. 283.

= *punctana* Hubner. Samml. Eur. Schmett. Tortr. 1796. pl. 2. f. 9.

Forewings dark grey with a greenish tint; two fuscous spots in the antemedian area, a single black spot in the central area and two or three fuscous spots in the marginal area.

Hubner's figure of *punctana* agrees very well with this description.

The form would appear to be very similar to the preceding *lathaniana* except in colour which is darker in this form (*fusco-cinereis*).

ab. *notata* Sheldon. Entom. 1919. 52. p. 105. pl. 1. f. 7.

Similar in all respects to the preceding *ilicana* Fabr., except that the colour of the forewings is much lighter in tint, i. e. a light silvery, ashy-grey.

ab. *nigripunctata* Sheldon. Entom. 1919. 52. p. 105. pl. 1. f. 8.

Ground colour of the forewings reddish-brown; the discal spot, which is black, shows prominently. There are waved slate-coloured lines crossing on each side of the discal spot.

ab. *rufescens* Sheldon. Entom. 1919. 52. p. 105. pl. 1. f. 9.

Similar in pattern and colour to the preceding *nigripunctata*, except that the discal spot, prominent and large in *nigripunctata*, is either missing, or very small and indistinct, on the reddish-brown ground.

ab. *brunnescens* Sheldon. Entom. 1919. 52. p. 105. pl. 1. f. 10.

Forewings, thorax, etc., uniform dull brown, with indistinct fuscous transverse lines; the dark central spot is only indicated by a few red-brown scales.

ab. *bifasciana* Donovan. Nat. Hist. Brit. Ins. 1801. 10. p. 86. pl. 357. f. 3.

Forewings testaceous, with two whitish bands and four distinct undulated streaks and spots of black.

Apparently a rare form.

ab. *afzeliana* Swederus. K. Vet. Acad. Nya Handl. 1787. 8. p. 276.

Forewings greyish with the base blackish and a large somewhat triangular blotch in the centre of the costal margin.

ab. *variegata* Sheldon. Entom. 1919. 52. p. 123. pl. 1. f. 11.

Similar to the preceding but the ground colour testaceous-brown instead of grey, the light areas also more blotched with dark fuscous.

ab. *adusta* Sheldon. Entom. 1919. 52. p. 123. pl. 1. f. 12.

Similar to the preceding *variegata* but with the ground colour much darker, of a dark dull brownish fuscous, and with the costal blotch and markings showing less distinctly owing to the darker ground colour.

ab. glaucana Lampa. Ent. Tidskr. 1885. 6. p. 31.

Ground colour of the forewings bluish-grey white, with hardly any definite markings; on the costal margin a large, nearly triangular, dark grey, or brown, blotch

Apparently very similar to afzeliana but without the dark basal blotch.

ab. canescens Sheldon. Entom. 1919. 52. p. 124. pl. 1. f. 13.

Forewings hoary greyish-white, with dark grey cloudings and blotches, and three waved transverse fuscous lines; the costa with large triangular dark grey blotch in the centre, which stretches half way down the wings.

ab. lichenodes Sheldon. Entom. 1919. 52. p. 124. pl. 1. f. 14.

Similar to the preceding but with a row of prominent dark fuscous spots on either side of the central area.

ab. fasciata Sheldon. Entom. 1919. 52. p. 125. pl. 1. f. 15.

Forewings hoary greyish-white as in the last two forms but the costal triangle extending as a fascia across the whole width of the wings; the basal area of the same tint.

The figure shows the costal triangle of a much darker colour than the rest of the fascia, the basal blotch is also very light.

ab. depicta Sheldon. Entom. 1919. 52. p. 125. pl. 1. f. 16.

Similar to the preceding with a dark central fascia, but in addition there are two rows of dark fuscous spots, one on each side of the fascia.

ab. feusteli Osthelder. Schmett. Sudbayern. 1932. p. 542. pl. 21. f. 46.

Forewings with brown ground colour, with one, sometimes two, black spots in the cell; the costal triangle present as in glaucana Lampa.

ab. undulana Hubner. Samml. Eur. Schmett. Portr. 1796. pl. 2. f. 7.

Forewings fuscous, with a number of darker fuscous, fine, waved transverse lines; the discal spot reddish-brown. There is no costal triangular blotch.

ab. albimaculata Sheldon. Entom. 1919. 52. p. 126. pl. 1. f. 17.

Similar to the preceding undulana but the discal spot light grey instead of reddish-brown; the ground colour lighter than in undulana thus showing up the dark transverse lines and appearing more variegated.

ab. plumbea Sheldon. Entom. 1919. 52. p. 126. pl. 1. f. 18.

Forewings with the ground colour light plumbeous, with the usual darker transverse lines faintly indicated.

ab. melanosticta Sheldon. Entom. 1919. 52. p. 126. pl. 1. f. 19.

Similar to the preceding but with a large and prominent central black spot on the forewings.

ab. obscura Warren. Seitz. 1913. 3. p. 290. pl. 53 row c.

Forewings olive-brown, the markings as in degenerana Hbn., i.e. basal and outer areas mottled and lined with blackish, the central area clearer.

We have the type in the R.C.K. coll., the figure in Seitz is reasonably good.

ab. nigricans Sheldon. Entom. 1919. 52. p. 126. pl. 1. f. 20.

= unicolor Osthelder. Schmiett. Sudbayern. 1932. p. 542. pl. 21. f. 46.

Forewings dark fuscous, the usual markings and transverse lines very obscure, having the appearance of a dull fuscous, almost black, insect.

Osthelder's unicolor was almost completely unicolorous blackish-grey.

ab. conjuncta Cockayne. Ent. Rec. 1951. 63. p. 162.

On the forewing a black bar runs from the median black dot (the reniform) to the antemedian line.

ab. rosea Sheldon. Entom. 1919. 52. p. 128. pl. 1. f. 21.

Forewings ground colour rosy reddish-brown, most prominent in the central transverse fascia; the usual thick transverse wavy lines are very prominent giving the insect a very distinct variegated appearance.

The form is figured in Barrett pl. 251 f. 3f.

ab. virescens Lempke. Entom. 1948. 81. p. 190.

Forewings pale greenish with a dark central band.

This is the specimen which Sheldon called "ab. degenerana" which it is superficially like but now regarded as a distinct species

ab. columbana Turner. Ent. Rec. 1925. 37. p. 77.

Forewings of a beautiful uniform dove-grey colour, with all the markings so suppressed as to be only suggested at certain angles as being faintly picked out in brownish; the only noticeable one, if at all, is a very ill-defined triangular costal blotch of a suggestion of brown shade; no marking is emphasized only being seen when looked for.

This form belongs to the afzeliana group, see p. 3 of these notes. It was said to be a race by Turner but apparently occurred with other forms, so is an ab.

fraxini Linn. Syst. Nat. Ed. 10. 1758. p. 512.

aberrational forms etc.

fraxini Linn. typical form --- forewings ash-grey with cloudy markings, the hindwings black with blue fascia.

ab. moerens Fuchs. Jahrb. Nass. Ver. Nat. 1889. 42. p. 210.

Forewings strongly darkened to blackish-grey, with a light spot in the centre, beneath the reniform.

ab. gaudens Staudinger. Cat. Ed. 3. 1901. p. 247.

Forewings much paler, white-grey.

ab. contigua Schultz. Ent. Z. 1906. 20. p. 86.

= longimaculata Closs. Int. Ent. Z. 1918. 11. p. 195.

The light spot in the centre of the forewings, just below the reniform, is much lengthened outwardly so that it reaches the doubled tooth-line (the postmedian). Particularly striking are examples with the wings strongly dark dusted, when this longitudinal streak stands out especially distinct.

ab. atra Spuler. Schmett. Eur. 1908. 1. p. 367.

Forewings and thorax totally blackened.

This apparently is much darker than moerens Fuchs, since Spuler also gives moerens with the description "strongly darkened by black dusting".

ab. argillacea Vincent. Bull. Soc. Ent. France. 1910. p. 316.

Forewings with the two transverse lines of a beautiful straw-yellow, edged with black on each side, the spot below the reniform also straw-yellow.

ab. coerulescens Closs. Int. Ent. Z. 1918. 12. p. 34.

The forewings strongly blue-suffused.

Closs says this appears to be a transition to ab. moerens Fuchs.

ab. apunctaleuca Braun. Lamb. 1935. 35. p. 22. pl. 2. f. 2.

On the forewings the whitish spot, usually seen just below the reniform, is completely absent.

ab. suffusa Chalmers-Hunt. Entom. 1961. 94. p. 282. (Fig. Pr. S. Lond. Soc. 19-9-50. pl. 3)

On the forewing all the markings are suffused and indistinct. Hindwing normal. The white spot below the reniform is present.

ab. nana Wukowsky. Folia Zool. Hydro Biol. . 7. p. 230.

ab. maculata Kusnezow. Rev. Russe Ent. 1901. 1. p. 230. fig. n. 229 f. 3.

Hindwing showing a distinct blue patch in the basal half of the wing where, in C. nupta, the red colouration begins. Forewings white-grey, less marked.

This area of blue scaling is small and the form is a transition to the ab. reversa Fischer which shows much more in the basal area.

ab. coeruleo-maculata Closs. Int. Ent. Z. 1918. 12. p. 35.

The hindwings are the same as in the preceding, with a blue patch in the basal field, but the forewings are as in ab. moerens Fuchs, dark dusted.

ab. reversa Fischer. Ent. Z. 1943. 56. p. 236. (fig. Mitt. Schweiz Ent. 19. pl. 2. f. 4)

An extreme form of coeruleo-maculata Closs in which a large part of the usual black basal field is blue, to whitish-blue, leaving a black transverse median band in between it and the normal blue transverse band, much as in C. nupta.

The black crescent of the underside shows in the blue area of the upperside.

ab. extrema Meyer. Zts. Wien Ent. Ges. 1952. 37. p. 7. pl. 2. f. 5.

There seems little or no description in the long mixed-up article, Meyer refers to his figure which is a good one, it seems best to describe the form from it.

The hindwings are almost entirely blue in the basal field, leaving a rather narrow black transverse line between this basal blue, and the blue of the normal transverse band, somewhat more extreme than in the preceding reversa Fischer.

The forewings are also very aberrant, the black markings being much increased and fused into large dark areas as far as the postmedian line, which is followed by a prominent whitish transverse band, standing out prominently because it is followed by a dark transverse shade. The form was obtained by temperature experiment.

ab. sternecki Hirschke. Jahres-Ber. Wien Ent. Ver. (1910) 1911. 21. p. 94.

The blue band on the upperside of the hindwings more than doubled in breadth. Of the normal large black basal area there only remains a small round patch.

ab. latefasciata Tarnecke. Int. Ent. Z. 1919. 13. p. 25.

The blue band on the hindwing is about 2 mm. broader than in normal specimens. Described as a local form from Amurland but our specimens in the Rothschild coll show that it is merely an aberration. The form is transitional to the preceding.

ab. angustata Schultz. Ent. Z. 1906. 20. p. 86.

The blue transverse band of the upperside of the hindwings, strikingly narrowed.

aberrational forms etc.

nupta Linn. typical form -- forewings greyish with cloudy undulations, hindwings red with two black bands.

ab. concubina Borkhausen. Eur. Schmett. 1792. 4. p. 21. (fig. Sepp. l. pt. 4. pl. 7. f. 7.) The middle band of the hindwings is continued broadly to the hind margin, not broken, as is usual, just before it and then carried on in the form of a streak. The form was named from the figure in Sepp and Borkhausen says the hindwings are of a brighter red than in typical nupta. Sepp's figure shows the hindwings of a somewhat deeper red which may have been merely the artist's impression. The main character is the black middle band which travels from the costa to the hind-margin in an unbroken sweep, passing straight through the black streak usually seen just before the margin.

ab. mutilata Schultz. Ent. 2. 1906. 20. p. 94.

The black transverse band of the hindwing shortened. This is only present at the costa and as far as the place where it is normally angled.

ab. coerulescens Cockerell. Entom. 1889. 22. p. 127. (see p. 51.)

There seems to be some doubt about this form although the description is quite clear and concise. Cockerell refers to the Meeting of the S. Lond. Nat. Hist. Soc. where Mr. White exhibited a coloured drawing of nupta in which the hindwings were blue, and names this form coerulescens. Tutt states that Mr. Veir remarked at the Meeting that the colour was the same as in C. fraxini. In spite of this, Tutt on p. 131 of vol. 4. Brit. Noct., says that the form with "pale brown" hindwings, shot with purple, later described by Frohawk as of a "very delicate warm brown with a purple glow", is the same as coerulescens. I cannot reconcile the colour of fraxini hindwings with any sort of brown. This brown form is ab. brunnescens Warren.

ab. brunnescens Warren. Seitz. 1913. 3. p. 305. pl. 55 row b.

Hindwings dark olive-brown.

We have Warren's type which is not dark olive-brown, it agrees more with the specimen mentioned by Frohawk (above) which was of a delicate warm brown with a purple glow. Our series of the form, 12 specimens, show various degrees of brown, some very dark purple-brown to the palest, which is Warren's type. None of these could be called blue in any sense of the word so I do not agree with Lempke's remark that "there can be no doubt that this form is the same as ab. coerulescens Cockerell."

ab. guiartii Lambillion. Rev. Mens. Ent. Soc. Nam. 1905. 5. p. 2.

The red of the hindwings is replaced by a striking bluish suffusion.

This may or may not be the same as coerulescens Cockerell, it can hardly be brunnescens Warren.

ab. nigra Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 104.
Hindwings unicolorous black, the red colour still feebly perceptible.

ab. sanguinea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 104.
Hindwings of a beautiful blood-red.

ab. xanthophaea Schawerda. Zts. Ost. Ent. Ver. 1925. 10. p. 47.
Hindwings not red, but pale brown-yellow.

ab. flava Schultz. Ent. Z. 1906. 20. p. 86, & 87.
The red of the hindwings is completely replaced by yellow.

ab. salmonea Cockayne. Ent. Rec. 1946. 58. p. 75.
The red of the hindwings replaced by pale to medium salmon-pink.

ab. languescens Warren. Seitz. 1913. 3. p. 305. pl. 55 f. row A.
Hindwing yellowish-white with a faint pink flush.

ab. rubridens Warren. Seitz. 1913. 3. p. 305. pl. 55. row a.
The red ground colour of the hindwing running out along veins 2 & 1 in the shape of sharp wedge-shaped teeth, almost interrupting the black median band, which is swollen between them into a large horse-shoe shaped blotch..
The description is bad but the figure good. The Type is in the Tring Museum and shows the red ground extended or protruding well into the black transverse median band, thus forming a sharp tooth which almost cuts the band. The second tooth mentioned by Warren is the normal one near the anal angle, and the "large horse-shoe shaped blotch" is also normal. The effect of the tooth is to give the band a very different line of direction, although this is a false impression.

ab. alterata Warren. Seitz. 1913. 3. p. 305.
The black bands of the hindwings altered to grey.

ab. confusa Oberthur. Lep. Comp. 1912. 6. p. 336. pl. 131 f. 1158.
There appears to be no description but the figure is excellent. This shows the markings of the forewing blurred and suffused with dark grey, especially the outer third of the wing. The hindwings are strikingly aberrant, the outer edge of the median black band being dentate with many fine tooth-like projections, and the inner edge of the marginal black band similar, but the tooth-like projections much longer and sharper. This gives the effect of the red ground sending out red rays into the black bands.

ab. fida Schultz. Ent. Z. 1909. 22. p. 169.
On the forewing, between the margin and the sharply-toothed wavy line, there is a distinct, broad, white, fairly well-defined, broken toothed line.

ab. nigrescens Hannemann. Int. Ent. Z. 1917. 11. p. 105.
Forewings dark black-grey, with strong dark markings, the light parts absent.

ab. nigra Cockayne. (nom. preoc. Lempke.) Ent. Rec. 1951. 63. p. 162. pl. 5 f. 4.
Forewing and thorax almost black, on the forewings traces of two light marks near the reniform, and of the pale subterminal line. Hindwing normal.

ab. variegata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 103.

Forewings grey, strongly spotted with yellow, the markings dark and sharply contrasting.

ab. dilutior Schultz. Ent. Z. 1909. 22. p. 169.

Forewings with the ground colour strongly lightened, either brownish-yellow with the normal markings standing out somewhat darker in yellow-brown, or whitish-grey with hardly discernible yellowish mixture.

ab. griseus Hannemann. Int. Ent. Z. 1917. 11. p. 105.

Forewings unicolorous brownish-grey, the light and dark markings almost invisible.

ab. quasiinterrupta Schnaider. Polsk. Pismo Ent. .19. p. 254.

ab. victoria Moskressensky. Trav. Mus. Zool. Kieff. .3. p. 146.

Noct. 283.
p. 1.

Catocala Schrank.

sponsa Linn. Syst. Nat. 1767. Ed. 11. p. 841.

aberrational forms etc.

ab. desponsa Schultz. Ent. Z. 1906. 20. p. 94-95.

Examples in which the crimson-red of the hindwing is completely changed to yellow, also those in which it is partly changed.

ab. postlactea Cockayne. Ent. Rec. 1951. 63. p. 162.

Hindwings with the usual purplish-red replaced by white with a creamy tint in the basal area; the underside cream coloured. Forewings, thorax and abdomen lack the brown tone of the typical form.

ab. rejecta Fischer. Entomographie de la Russie. 1820-22. 1. p. 197. pl. 5. f. 2.

The original description says the hindwings are brownish instead of red, with a narrow undulated rosy band. The figure is good and shows this rosy band on the outer side of the median black transverse band which is quite perceptible on the brown ground, as is also the marginal black band.

Most authors copy Guenee and Tutt in describing the hindwings as "entirely black" which is a gross exaggeration. Warren's figure in Seitz on the other hand shows practically no darkening of the red ground.

ab. pomerana Diesterweg. Deutsch. Ent. Z. 1921. v. 271.

Head, thorax, abdomen, fore and hindwing black. The reniform weakly grey-marked and the paler spot below it absent, the subterminal similarly marked in grey.

ab. rosea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 101.

Ground colour of the hindwings rosy-red.

ab. demaculata Heinrich. Deutsch. Ent. Z. (1916) 1917. p. 523.

On the forewings the stigmata are not white, but covered over with the ground colour.

ab. fasciata Spuler. Schmett. Eur. 1907. 1. p. 316.

= variegata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 101.

Forewings variegated, the middle field between the two transverse lines strongly white-grey dusted.

Lempke's variegata had the central area of the forewings paler, greyish.

ab. florida Schultz. Ent. Z. 1909. 22. p. 169.

Very similar to the preceding but apparently paler over the whole of the forewings. The basal area is pale-brown, far lighter than the usual colour, whilst the middle over its whole surface, from costa to inner margin, is grey-white powdered. The outer part of the marginal area is also grey-white, whilst the inner part, margined by the black dentate transverse line, is pale brown like the basal area.

ab. grisea Warren. Seitz. 1913. 3. p. 303. pl. 54 f. row c.

Forewings entirely dark grey, grizzled with pale grey, without any brown or fuscous streaks.

ab. fortis Schawerda. Verh. zool.-bot. Ges. Wien. (1921) 1922. 71. p. 158.

Forewings strikingly black-brown in the basal, middle and outer areas, only a small area around the stigmata, and these themselves, are pale, the subterminal line pale and visible on the black-brown.

ab. obscura Oberthur. Lep. Comp. 1909. 3. pl. 12. f. 16. p. 405.

= obscura Schawerda. (nom. preoc. Oberth. 1909.) Verh. z.-b. Ges. Wien. 1922. 71. p. 158.
Specimens with completely dark forewings, without white or white-grey. Described as an ab. of the Algerian subsp. laeta Ob. Schawerda's obscura was from S. Europe.

ab. atra Spuler. Schmett. Eur. 1908. 1. p. 367.

Forewings completely blackened.

This may be the same as the preceding but "blackened" presumably means black and not black-brown.

ab. flavicollis Kesenheimer. Ent. Z. 1941. 55. p. 72.

With beautiful ochre-yellow collar, standing out sharply from the mouse-grey thorax as it does in many Cucullia species.

- promissa Schiff. Wien Verz.1775.p.90.
- = promissa Hubner. Samml.Eur.Schmett.1809-13.pl.71.f.334
- = mneste Hubner. Samml.Eur.Schmett.1809-13.pl.123.f.569.
- = conjuncta Humph.& Westw.(nec.Esp.) Brit.Moths.1843.1.v.250

aberrational forms etc.

promissa Schiff. (Hubner). typical form -- from Hubner's figure the forewings are grey mottled with brown. Hindwings crimson, the median transverse black band not reaching the anal margin. Hubner's mneste is figured with this band also not reaching the anal margin, so it should not be treated as an aberration on this point, as it is in the new South's Moths of Brit. Is. The forewings in mneste are less variegated with whitish but it would seem best to treat it as a synonym of the type form. Hubner's third figure, this time called promissa (as his first figure is), shows the transverse band of the hindwing travelling right up to the anal margin.

ab.grisescens Lempke. Tijdschr.Ent.(1946) 1949.90.p.102.
The ground colour of the forewings grey without brown, the pattern sharp.

ab.variegata Lempke. Tijdschr.Ent.(1946) 1949.90.p.102.
The central area of the forewings pale grey, sharply contrasting with the dark brownish basal and marginal area.

ab.rosea Tutt. Brit.Noct.1892.4.p.55.
The abdomen entirely of a rose colour.

ab.contigua Lempke. Tijdschr.Ent.(1946) 1949.90.p.103
The pale spot, under the reniform stigma, touches the outer line.

ab.ochracea Oberthur. Bull.Soc.Ent.France.1907.p.346.
Hindwings of a clear yellow-ochreous.

ab.obsoleta Schultz. Ent.2.1906.20.p.95.
Hindwing with the black median bands not sharply bordered as in the type but flowing into the red ground colour. It has a similar appearance to C.sponsa ab. rejecta Fischer.

ab.sponsoides Closs. Int.Ent.4.1918.12.p.34.
The median band of the hindwings angulated as in sponsa and extended to the hind-margin. Possibly a hybrid between sponsa and promissa.
We have specimens in which the band reaches the hind-margin in a very definite manner, which gives the band a more angulated appearance.

Noct. 285.
p. 1.

Euclidimera Hammonson.

mi Clerck. Icones Ins. Rar. 1759. 1. pl. 9. f. 5.
= litterata Cyrilli. Ent. Nap. 1787-92. 1. p. 2. pl. 1. f. 9.

aberrational forms etc.

mi Clerck. typical form --- the ground colour white.

ab. ochracea Tutt. Brit. Noct. 1892. 4. p. 58.

Both fore and hindwings with the pale parts ochreous, instead of white. The common form in England.

ab. illuminata Warren. Seitz. 1913. 3. p. 343. pl. 62 row h-i.

The dark areas restricted by the amplification of the pale spaces.

ab. aurantiaca Warren. Seitz. 1913. 3. p. 343.

The ground colour orange-yellow.

ab. suffusa Warren. Seitz. 1913. 3. p. 343. pl. 62 row i.

The white spaces almost crowded out and both wings are nearly black.

ab. obscura Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 108

Forewings unicolorously dark grey-brown with narrow pale circumscription of the markings of the central area, and narrow or obsolete subterminal line; hindwings normal. The latter character distinguishes the form from ab. suffusa Warren.

ab. extrema Bang-Haas. Iris. 1912. 26. n. 162.

An extreme form of the white-ground-coloured ab. litterata, with the fore and hind wings showing strong extension of the white coloration; the black and the white are about even, giving a quite different impression than the darker European specimens; in particular the white transverse band in the middle of the hindwing is often really broad.

Described from Amur and is possibly a race but may well occur as an aberration.

ab. costimacula Cockayne. Ent. Rec. 1951. 63. p. 162. pl. 5 f. 11.

On the forewing the basal area is paler than usual; there is a dark mark on the costa, which just encloses the reniform and orbicula, which is curved on the distal side, and has a small hook-shaped projection at the proximal end pointing to the inner margin; the subterminal and marginal lines are normal, the rest of the wing is very pale cream and contrasts strongly with the dark markings. On the hindwing the basal area is dark grey-brown, without the usual light areas of ground colour: a broad band of light ground separates it from the black band running parallel with the margin, the black marginal band is normal.

ab. explanata Rebel. Verh. zool.-bot. Ges. Wien. (1908) 1909. 58. p. (271).

Forewings at the base white-grey, becoming paler and paler towards the margin, and beyond the subterminal almost pure white. The markings less developed towards the margin, the reniform is white-grey instead of black and the hook-shaped costal blotch which follows it is strongly reduced to barely half its normal width, the subterminal line only marked by blackish-grey shading. Hindwings similar, the black markings remain in the basal area but in the marginal area there are radiating streaks of blackish on the veins.

ab.insulata Klemensiewicz. Spraw.Kom.Fizyogr.Krakow.1912.46.p.16.

The lobe of the postmedian blotch of the forewing pointing towards the anal angle, is widely interrupted by white.

This description is by Draudt in Seitz 3. Suppl., I have not seen the original.

ab.vitiosa Wehrli.

The forewings show a reduced middle area. The outer transverse stripe extends to the inner margin in an "S" shape, so that it forms only one lobe at its lower end, emitting white ray-like extensions towards the margin.

This description is by Draudt in Seitz 3 Suppl., he gives no reference.

It presumably means that the lobe of the outer costal blotch is cut off so that its' outer edge forms a line from the costa to the inner margin in the shape of an "S", the lower part of this "S" is the lobe of the inner transverse blotch.

ab.cuncleata Lenzen. Ent.Z.1944. .p.26.

Noct. 286.
p. 1.

Ectypa Billberg.

glyphica Linn.

aberrational forms etc.

glyphica Linn. typical form --- forewings fuscous with blackish markings, hindwings yellow with blackish fascia.

The latin description may well apply to mi and not glyphica, since Linnaeus mentions "maculis hieroglyphicis nigris"; there are no hieroglyphics on the forewings of glyphica.

ab. marginata Spuler. Schmett. Eur. 1907. 1. p. 307.

On the forewings the marginal area, with the exception of the dark costal spot, is lightened to whitish ochreous as far as the quite narrow outer band, which is contrastingly dark. Hindwings vary in a similar way.

ab. suffusa Spuler. Schmett. Eur. 1907. 1. p. 307.

On the forewings the marginal area, where it is usually paler, is unicolorously dark brown.

ab. costovata Foltin. Zts. fien Ent. Ver. 1942. 27. p. 36.

The two transverse stripes of the forewings are united at the inner margin.

ab. angustelineata Lempe. Tijdschr. Ent. (1946) 1949. 90. p. 110.

The broad dark bands along the inner and outer lines of the forewing, fail.

ab. meridionalis Strand. Nyt. Mag. f. Naturv. 1901. 39. p. 55.

The dark costal spot of the forewings tapers to a point at its lower end and is therefore triangular.

Strand expressed the opinion that this form was possibly the Central-European subspecies but Lempe says this is not so, and none of our European series show the character at all. I agree with Lempe, that it is a rare form.

ab. tristicula Schultz. Soc. Ent. 1908. 22. p. 186.

Forewings almost unicolorous black-brown, hindwings unicolorous black-brown.

ab. aurantiaca Schawerda. Zts. Ost. Ent. Ver. 1928. 13. p. 105.

Hindwings orange. Forewings more contrasted in grey-violet and deep chocolate-brown.

ab. obsleta Strand. Nyt. Mag. f. Naturv. 1901. 39. p. 55.

The two transverse bands on the underside of both fore and hindwings completely absent, or extremely weak.

ab. lata Strand. Nyt. Mag. f. Naturv. 1901. 39. p. 55.

On the underside the innermost transverse line is indistinct whilst the outer one is strikingly dark and broad, at least on the hindwings.

- lunaris Schiff. Wien Verz. 1775. p. 94.
 = meretrix Fabr. Spec. Ins. 1781. 2. p. 507.
 = augur Esper. Eur. Schmett. 1786. 4. (1). p. 67. pl. 87. f. 4 & 88. f. 1.

aberrational forms etc.

ab. ochrea Krombach. Int. Ent. Z. 1919. 12. p. 186.

Ochre-yellow suffused with weak markings.

ab. rufa Oberthur. Etudes Ent. 1884. 9. p. 39. pl. 3. f. 11.

No description. The coloured figure shows the wings strongly rufous or red-brown.

ab. murina Oberthur. Etudes Ent. 1884. 9. p. 39. pl. 3. f. 12.

No description. The coloured figure shows the wings mouse-grey.

ab. maura Oberth. Etudes Ent. 1884. 9. p. 39. pl. 3. f. 13.

No description. The coloured figure shows the wings unicolorously black-brown, the transverse lines faintly apparent in dark grey.

ab. obscura Favre. Faun. du Valais. 1899. p. 220.

Extremely like the preceding but since the markings are said to be normal and therefore yellowish, not dark grey as in Oberthur's figure of maura, it can stand if desired. The wings are blackish-brown, the markings normal.

ab. brunnea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 107.

Forewings unicolorously brownish with distinct markings. Presumably only in the ♀.

ab. brunneogrisea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 107.

Ground colour of the forewings dark grey-brown with distinct markings. Probably only in the female.

ab. albilinea Wagner. Int. Ent. Z. 1919. 13. p. 158. pl. 1. f. 4. (plate not in our copy)

All wings unicolorous dark brown, the forewings with two sharp fine white transverse lines; all the other markings, also the stigmata, completely obliterated the subterminal marked by whitish clouding.

ab. clara Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 107.

The marginal area much paler than the typical form, because the dark tint is restricted to a feeble shadowing of the outer line and the submarginal line.

ab. olivescens Warren. Seitz. 1913. 3. p. 327. pl. 60 row e.

The whole wing tinged with greenish, and the abdomen is glossy.

We have the type at Iring, the forewings are pale grey with the slightest tinge of green; the body is not glossy, only greasy.

ab. cingulata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 108.

The dark centre of the reniform fails, so that only the circumscription remains. This form seems as common as the dark-centred reniform which Lempke evidently assumes to be the typical form.

ab. clausa Lempke. Tijdschr. Ent. (1946) 1949. 90. n. 108. (description vol. 82. p. 197.)
The first and second transverse lines join at the inner margin.

ab. radiata Cockayne. Ent. Rec. 1953. 65. p. 81. pl. XI. f. 3.

From the subterminal line to the row of black dots near the margin, there is a pale line along each of the nervures (seven in all).

We have the Type in the R.C.K. collection at Tring, and these rays do not start on the subterminal, but half-way between the postmedian and the subterminal. The hindwings show traces of the same character.

ab. privata Dannehl. Ent. Z. 1926. 40. p. 370.

The orbicular completely absent.

ab. cantiana Chalmers-Hunt. Entom. 1961. 94. p. 283. pl. 7. f. 5.

On the forewing the area external to the outer line is reddish-brown, thus contrasting strongly with the basal and median areas, which are greyish-white. The figure shows the subterminal line distinct; it is therefore not the same as the following ab. bitincta Dannehl.

ab. bitincta Dannehl. Ent. Z. 1926. 40. p. 371.

On the forewing the outer area contrasts with the dull unicolorous pale middle and basal areas, by being unicolorously darkened through the complete absence of the outer wavy transverse line.

ab. centralis Chalmers-Hunt. Entom. 1961. 94. n. 283. pl. 7. f. 13.

On the forewing the normal dark brown colouring, distal to the postmedian, extends inwards to include the whole of the median area.

The figure shows the basal area and the outer marginal area of the normal pale coloration, the median area remarkably dark and contrasting.

ab. inoperta Loritz. Zts. Wien. Ent. Ges. (1946) 1947. 57. p. 93. fig. n. 94.

The forewing is covered with ivory scales, the brown nervures standing out well from this light ground. The palps, hair on head, thorax and abdomen, as well as the legs, are also ivory coloured. Hindwing considerably lighter in the central area, without any trace of dark scales in its inner part. An "albinism" of the forewing.

aberrational forms etc.

ab. avellanae Huene. Berl. Ent. Z. 1901. 46. p. 309.

Forewings unicolorous grey from the base to the outer margin, the markings normal and distinct but the nut-brown band of the basal half fails completely.

ab. alba Derenne. Lamb. 1926. 26. p. 42.

The brown band of the forewing only exists at the base, the area normally occupied by the brown band is white-grey, leaving the sinuous lines bordering it, and also the orbicular, visible in black; the terminal area is dark grey. Head and abdomen grey-whitish. An albinistic form.

ab. deleta Cockayne. Ent. Rec. 1951. 63. p. 163. pl. 5. f. 12.

The whole of the median area of the forewing is cream coloured, without any markings except a thin dark line round the orbicular and a dark dot inside it, a dark line on the proximal side of the reniform and another inside it; the basal, ante and postmedian lines are absent; the basal area is light brown and the outer part of the wing is uniformly pale brownish-grey with the subterminal line slightly darker.

Somewhat similar to the preceding ab. alba Derenne but the median area has no sinuous lines bordering it.

ab. medianigra Vorbrodt. Schmett. Schweiz. 1911. 1. p. 237.

The median band of the forewings dark black-brown.

ab. melanotica Haverkamp. Ann. Soc. Ent. Belg. 1906. 50. p. 158.

= weymeri Hold. Int. Ent. Z. 1910. 3. p. 240. fig.

= wautersi Dufrane. Rev. Mens. Soc. Ent. Nam. 1925. 25. p. 51.

Complete melanism, thorax, abdomen and wings.

Hold's weymeri, from the same locality, Elberfeld, Germany, was also described as "melanistic" -- Of a unicolorous dark brown coloration with only slight markings. The figure is good.

Dufrane's wautersi was described as having the light parts not pearl-grey, but russet or brown-red from the elbowed line to the fringe; the median area is clear or light brown, with the darker markings of the typical form.

This is almost certainly one of the graduations in colour of the ab. melanotica which varies to a great extent in depth of colour. We have several bred examples which could be separated from the very dark ones as wautersi, being lighter red-brown especially in the marginal area. It would however seem undesirable to separate and name all these various shades.

The ab. melanotica is very common in the Chilterns around Tring at the present time, 1963.

ab. uniformis Turati. Nat. Sic. 1919. Sep. p. 64.

Uniform brown colour. Of lighter colour there is only one little white mark showing on the distal side of the reniform which appears at the side of the outer transverse stripe which there envelopes almost the proximal brown border of the spot itself, continuing sufficiently distinct to finish at the inner margin. Standing out also is the little brown circle of the vascular stigma with the little black spot in the centre. It reminds one a little of the uniformly coloured subsp. mus Oberthur, but the colour is different being grey in mus.

The description is somewhat puzzling, the form must be near melanotica but with a white spot on the outer side of the reniform.

ab. umbrosissima Turati, Nat. Sic. 1919. Sep. n. 63.

Showing a great intensification of the shady brown median area which assumes the shape of a dark triangle, leaving a little grey at the base and the part proximal to the costa. Its distal side, cutting almost half the wing with a straight line which constitutes the prolongation of the brown edge next to the reniform, goes straight from the costa to finish on the inner margin between the brown spot which ends the submarginal line, and the end of the distal transverse stripe.

Presumably the dark median area is extended beyond the reniform and up to the costa, where it is normally grey. It then goes in a straight line down to the inner margin, also somewhat beyond its normal extent.

ab. betulae Lenz.

The name was given to a possible new species on the strength of the larva being different from ordinary coryli. The larva was the dark, almost black form, which occurs along with the type form; the moths produced were little different from coryli. If used, the name is for the larval variation.

Noct. 289.
p. 1.

Polychrisia Hubner.

- moneta Fabricius. Mantissa 1787.2.p.164.
- = flavago Esper. (in error) Eur. Schmott. 1787.4. pl. 112. f. 1.
- = napelli Vill. Linn. Ent. 1789.2. p. 275. pl. 5. f. 21.
- = argyritis Esper. Eur. Schmott. 1792.4. (1). p. 218. pl. 112. f. 1.

aberrational forms etc.

ab. margarita Warren. Seitz. 1913.3. p. 358. pl. 65 row i.

Cream white with a silvery sheen, without any brown suffusion, the lines more or less obsolete but traceable like the stigmata, in certain lights. Hindwings whitish with brown veins and slightly discoloured towards the termen. Albino.

ab. esmeralda Oberthur. Etudes Ent. 1880.5. p. 85.

Forewings white-yellowish giving a very different appearance; the markings however are the same as in typical moneta, except the bent extrabasal line below the median nervure which, in moneta, is double but, in esmeralda, simple. The form would seem to be racial in Russia but we have a similar English form.

ab. aurea Lempke. Tijdschr. Ent. (1946) 1949.90. p. 121.

Forewings beautifully gold yellow-brown, the dark sprinkling or dusting, almost completely absent, the central shade pale brown.

ab. maculata Lempke. Tijdschr. Ent. (1946) 1949.90. p. 121.

The ground colour of the forewings darkened, so that the central shade no longer contrasts; the black powdering in the submarginal area condensed to black spots between the nervures.

We have the specimens mentioned by Lempke, the black marginal spots are large, striking and wedge-shaped, six to seven in number, they do not appear to be connected with black dusting or powdering which Lempke mentions.

ab. pallescens Lempke. Tijdschr. Ent. (1946). 1949.90. p. 120.

Ground colour of the forewings pale yellow-brown. All examples of the autumn generation belong to this form but it also occurs in the first generation.

ab. renitangens Lempke. Tijdschr. Ent. (1946) 1949.90. p. 121.

At its upper and lower edge the reniform stigma touches the central shade. This presumably means the large ear shaped silver spot.

ab. intersecta Huggins. Entom. 1952.85. p. 185.

The large ear-shaped spot in the centre of the wing is prolonged at the outer corner into a linear marking, which intersects the central dark band and reaches beyond it, towards the costal apex.



Noct. 290.

Plusia Ochs.

p.1.

chrysitis Linn. Syst. Nat. 1758. Ed. 4. p. 513.

aberrational forms etc.

chrysitis Linn. --- typical form -- the metallic bands yellow-copper in tint, and not united in the centre.

ab. juncta Tutt. Brit. Noct. 1892. 4. p. 25.

The two metallic bands of the forewing joined in their centres by a transverse band, instead of being separated throughout their length.

1902. 137)

ab. disiuncta Schultz. Ill. Zts. f. Ent. 1900. 5. p. 349. (fixed by Speiser Berl. Ent. Z. = disiunctaurea Spuler. Schm. Eur. 1908. 1. p. 366.

The glossy metallic transverse bands completely separated from one another. Schultz does not give any colour but Speiser automatically fixes this in his description as "shining gold yellow."

Schultz was wrong in considering the form with the bands united, as the typical form, his disiuncta was therefore a synonym of the type, except that he stated no colour, Speiser in fixing the colour, separates it from chrysitis which had copper-yellow bands. Spuler named this form with separated gold-yellow bands disiunctaurea.

In my opinion it is almost impossible to separate these metallic colours, except the distinctly green form, and it would have been better to make both disiuncta Schultz and disiunctaurea Spuler synonyms of the typical chrysitis, Lempke however has made an ab. disjuncta-virescens so the other "disiuncta" forms are kept separate here.

ab. disjuncta-virescens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 113.

The bands of the forewing green-yellow and not united with each other.

ab. disjuncta-scintillans Lempke. Ent. Ber. 1934. 9. p. 33.

The bands of the forewing blue-green and not united with each other.

ab. aurea Huene. Berl. Ent. Z. 1901. 46. p. 313.

As a separation from the greenish glossy brass forms, the glossy gold specimens can be distinguished by the name aurea, irrespective of the formation of the median grey-brown fascia.

Huene cites one specimen with the metallic bands joined across the middle, others with the bands separated, so the name is intended for all specimens in which the bands are "glossy gold".

ab. scintillans Schultz. Int. Ent. Z. 1907. 1. p. 32.

The metallic bands of the forewings silver-blue instead of the usual golden or brass colour. The bands are united in the middle. The metallic gloss of this form approaches in sparkling to that of the related species P. zosimi.

Lempke states that the form is "blue-green" and bases his disjuncta-scintillans on this assumption. It would appear that he misread Schultz description and thought Schultz meant the colour of P. zosimi, whereas it was the "sparkle" or gloss, which in zosimi is intense.

ab. *decorata* Dannehl. Ent. 4. 1933. 47. p. 20.

The metallic bands united as in ab. *juncta* Tutt, but so increased in the width at the point of junction that the inner marginal patch of brownish ground colour is almost completely absent.

ab. *croesus* Bryk. Ent. Tidskr. 1923. 44. p. 116.

The spot at the end of the cell gilded over.

Presumably of the same metallic shade as the bands.

ab. *rosea* Kaucki. Polsk. Pismo Ent. 1929. 7. p. 185.

Said to be suffused with rose. I have not seen the original description.

ab. *virescens* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 113.

The metallic bands of the forewings green-yellow, and united across the middle.

ab. *parva* Schnaider. Polsk. Pismo Ent. . 19. p. 254.

A form of ab. *juncta* Tutt, of very small dimensions.

ab. *splendidior* Fernandez. Mem. Soc. Espan. Hist. Nat. 1929. 15. p. 598. fig. 596.

Loct. 291.
p. 1.

Plusia Ochs.

chryson Esper. Eur. Schmelt. 1789. 4. (2). p. 446. pl. 111. f. 2.
= aurea Foltin. Zts. Wien Ent. Ver. 1942. 27. p. 36.

aberrational forms etc.

chryson Esper. typical form -- the metallic portion of the forewings golden.
Esper calls it "The Gold-Leaf Noctuid."

ab. virescens Lampke. Tijdschr. Ent. (1946) 1949. 90. p. 112.
The large spot of the forewings green-yellow.

ab. euporia Dannehl. Ent. 2. 1933. 47. p. 20. (description vol. 40. p. 17)
The gold spot almost reaching the costa. Hindwings with the transverse line
standing out from the dark marginal band, more strongly curved outwards towards
the margin.
Dannehl described this as the autumn brood from Southern Tyrol but it would
appear to be an aberration.

ab. coreae Strand. Arch. Naturg. 1917. 82. A 2. p. 50.
Forewing with the gold patch tinged with green and not extending to the
subterminal line.

Noct. 292.
p. 1.

Plusia Ochs.

bractea Schiff. Wien Verz. 1775. n. 314.
= securis Villiers. Linn. Ent. 1789. 2. n. 271. pl. 5. f. 10.

aberrational forms etc.

bractea Schiff. typical form --- purple-brown with golden spot.

ab. argentea Gronemeyer. Ent. 2. 1912. 25. n. 240.
= argentea-maculata Vorbrodtt. Schmiedt. Schweiz. 1912. 1. p. 421.
With distinct silver leaf.
Vorbrodtt's argentea-maculata had silver spot instead of gold.

ab. bracteana Strand. Arch. Naturg. (1916) 1917. 82. 1 2. p. 50.
Forewing with the metallic stigma only slightly drawn out at its lower end.
Normally the spot stretches out more than "slightly", but it is a most variable character with many intermediate stages.

ab. hanickae Silbernagel. Acta Soc. Ent. Bohem. 1940. 37. n. 113.

Noct. 293.
n. 1.

Plusia Ochs.

Festuca Linn. Syst. Nat. Ed. 10. p. 513.

aberrational forms etc.

ab. coalescens Schultz. Ent. 2. 1905. 19. p. 86.
= marisola Krulikowsky. Soc. Ent. 1908. 23. p. 11.
= festucella Strand. Arch. Naturg. (1916) 1917. 82. A 2. p. 48.
= juncta Greer. Entom. 1920. 53. p. 43.
The two silver spots on the forewing are united.

ab. miniana Schultz. Ent. 2. 1905. 19. p. 87.
= ignita Cockayne. Ent. Rec. 1951. 63. p. 163.
Forewings unicolorous bright vermillion or brick-red, the brown tones absent.
Head, antennae and thorax of a similar colour, abdomen, particularly on the under-
side, stronger red than normal, the legs also red of a brighter tint. The silver
spots in the median area normal, the other metallic markings often restricted by
the light red ground colour.
Cockayne's ignita would seem to be the same bright form. The description says-
The usual brown markings rich red-brown, and the pale ones bright reddish-orange;
the thorax reddish-orange, the abdomen rosy-red at the sides and on the anal end,
the antennae and legs bright reddish-orange. The form is a more brilliant and
fiery-red than any other seen by the author.

Noct.293A.
p.1.

Plusia Ochs.

gracilis Lempke. Ent.Ber.(Amst.).1966.26.p.69.

aberrational forms, etc.

Noct. 294.
p.1.

Plusia Ochs.

iota Linn. Syst. Nat. 1758. Ed. 10. p. 113.

aberrational forms etc.

iota Linn. typical form -- the "Y" mark divided into two parts, the upper like a "V", the lower like a tear or a round spot.

ab. ancora Freyer. Neu Beitr. 1833. 1. p. 89. pl. 47 f. 1.

Much paler than the typical form. Bred from pupa therefore in fresh condition. The figure shows the ground colour very pale flesh colour, the markings distinct.

ab. inscripta Esper. Eur. Schm. 1787. 4 (1). p. 229. pl. 113 f. 5.

No trace of the usual metallic "Y" shows on the forewings.

ab. percentationis Treitschke. Schm. Eur. 1826. 5. (3). p. 184.

= bartholomaei Men. Bull. Phys. Meth. Acad. 1859. . p. 15.

The upper and lower parts of the metallic mark, usually separated, are united into a "Y", as in gamma.

ab. incipiens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 115.

The loop (spot) of the two silver marks fails, the hook is normal.

This is the lower mark, referred to above as a "tear" or round spot.

ab. baltica Goeyer. Stett. Ent. 1. 1875. 36. p. 103, footnote.

Much darker, more violet-brown than the typical form.

pulchrina Haworth. Lep. Brit. 1801. p. 246.
= *v-aureum* Guenee. Hist. Nat. Ins. Lep. 1852. Oct. 2. p. 239.

aberrational forms etc.

pulchrina Haworth. typical form -- the metallic "Y" mark divided into two parts, the upper like a V, the lower usually in the shape of an elliptical spot.

ab. *percontatrix* Aurivillius. Nord. Fjarila: 1888-91. p. 181.

= *juncta* Tutt. Brit. Oct. 1892. 4. p. 29.

= *epsilon* Wiesen. Stett. Ent. 1. 1901. 62. p. 166.

The two metallic marks of the forewing united to form a "Y", instead of being separated into an upper "V" and a lower spot.

ab. *incipiens* Schawerda. 1. St. Ent. Ver. 1929. 14. p. 107.

= *orbata* Dahl. Ent. Tidskr. 1930. 51. p. 252. pl. 1 f. 4.

The lower metallic spot of the forewing is absent. The upper part, usually "V" shaped, reduced to just a trace.

Dahl's figure of *orbata* shows the upper mark as a mere spot, the lower spot completely absent.

ab. *gammaoides* Speyer. Stett. Ent. 1. 1875. 36. p. 103 footnote.

Violet-grey, like many *P. gamma*, not red as in the typical form.

ab. *pallida* Warren. Seitz. 1913. 3. p. 351.

The ground colour is whitish.

ab. *rosea* Van Dissingh. Ent. Ber. Amst. 1954. 15. p. 19.

The ground colour grey-brown, without a trace of red or violet.

ab. *gloriosa* Cockayne. Ent. Dec. 1951. 63. p. 163. (Fig. Entom. 53. n. 1 t. 1.)

On the forewing there is a large wedge-shaped golden patch beginning at the antemedian line as a narrow streak and widening gradually and becoming less defined when it reaches the postmedian line; there is a golden line along the subcostal, and another along the median nervure, and two diffuse golden streaks, one between nervures 4 and 5 and another between 5 and 6; there is a golden line along the edge of the subterminal line and an area of diffuse pale rose colour outside it.

ab. *denudata* Cockayne. Ent. Dec. 1951. 63. p. 163. pl. 5 f. 8.

The area between nervures 1 and 3 on the forewing from the antemedian to the postmedian line is almost symmetrically devoid of scales except those of the golden marks, which remain intact; the proximal and distal sides of the reniform are golden and there are scattered golden scales along the external aspect of the subterminal line. Underside normal.

Doct. 296.
p. 1.

Plusia Ochs.

ni Hubner. Samml. Eur. Schmett. 1800-03. pl. 58. f. 224.

aberrational forms etc.

ni Hubner. typical form --- the metallic mark on the forewings divided into two parts, the upper shaped like a "U", the lower merely a spot, or drop.

ab. comma Schultz. Int. Ent. Z. 1907. 1. p. 32.

On the forewing the upper and lower parts of the silver marking are joined so that a comma shaped character is formed. The branches of the upper mark are united at the top forming an oval instead of a U.

ab. Florida Dannehl. Mitt. Munch. Ent. Ges. 1929. 19. p. 116.

The ground colour milk-white. The normally black-brown markings are pale silver-grey, the fringes white and pale grey chequered. Hindwings white-grey broadly dusted grey on the margins.

The author does not say whether this is subspecific in the Apennines from whence it was described. It would seem more likely to be an aberration, we have a specimen in the Tring Museum from Algeria which answers the description.

Noct. 297.
p. 1.

Plusia Ochs.

gamma Linn. Syst. Nat. 1758. 4. p. 513.

aberrational forms etc.

gamma Linn. typical form --- the metallic mark forming a letter "Y", not separated into two parts as in pulchrina and iota.

ab. bipartita Orstadius. Ent. Finskr. 1930. 51. p. 256. fig.

The "Y" mark on the forewing divided into two parts, an upper "V" and a lower small spot.

ab. comma Ostrejka. Trav. Soc. Sci. Lettres, Vilno Cl. Sci. Math. Nat. 1929. 1. p. 1.

The gamma mark reduced to a fairly thick bar, curved in the middle.

I have not seen the original description.

ab. tiltscheri Dioszeghy. Verh. Mitt. Siebenb. Ver. Nat. 1935. 83-84. p. 190.

A further reduction of the gamma mark, the lower part being absent, leaving the upper "V".

ab. incipiens Cockayne. Entom. 1955. 88. p. 75. pl. 3 f. 8.

The normal silver mark is reduced to only one dot. Cockayne says this corresponds with the ab. incipiens of P. iota which is not actually correct. In the iota form the upper part of the "Y" is present and only the lower spot absent, in Cockayne's gamma the lower part remains whilst the upper part is absent. The description however covers any form of gamma in which the "Y" is reduced to only one dot.

ab. gartneri Skala. Ent. 1. 1929. 42. p. 317.

The ground colour pale and the gamma mark large and dissolved, giving a most strange appearance.

We have a specimen in which the position of the "Y" is of a blurred whitish appearance as though the Y had been melted into nothing. This is possibly gartneri but the description is not clear.

ab. pallida Tutt. Brit. Noct. 1892. 4. p. 32.

Of a very pale whitish-grey colour.

ab. rufescens Tutt. Brit. Noct. 1892. 4. p. 34.

The red colour more pronounced and occupying more space than usual.

ab. rufa Verity. Bull. Soc. Ent. It. 1904. 36. p. 77.

Possibly the same as the preceding rufescens Tutt. The black suffusion of the forewings is replaced by a beautiful reddish colour, the Y mark golden instead of silver, so that it has a different look from the typical form.

ab. alba Cockayne. Ent. rec. 1951. 63. p. 164.

All parts of the moth white, the forewings slightly tinged with cream and the markings pale greyish; the thorax has pale brownish-grey markings.

ab. nigricans Spuler. Schm. Eur. 1907. 1. p. 304.

= purpurissa Warren. Seitz. 1913. 3. p. 351.

The forewings, except for the paler narrow border, wholly violet-black-brown tonal. Warren's purpurissa, of which we have the type, is the same form slightly faded to possibly a more brownish colour, although I myself would describe it as Spuler does -- violet-black-brown.

ab. brunescens Gelin & Lucas. Cat. Lep. Ouest France. 1912. p. 145.

I have not seen the original description. Turner says it is "a very fine melanic specimen with the lines of the forewings marked out in brown, the outer angle of the wings and the anal angle of the hindwings marked with a broad brown patch." It may possibly be the preceding nigricans Spuler since it is melanic, but until the original description is seen, it is separated.

ab. alepica Mitsu. Verh. zool.-bot. Ges. Wien. 1911. 61. p. (32).

The hindwings hyaline except for the broad blackish margins. The forewings paler than normal.

ab. gamma Staudinger. Cat. Fl. 3. 1901. p. 238.

= minuscula Lambillion. Cat. Lep. Belg. 1904. p. 144.

Half the size of normal, well marked.

Lambillion's minuscula was a dwarf form with usually lighter ground colour.

ab. lilacina Lemke. Tijdschr. Ent. (1946) 1949. 90. p. 118.

The pale parts of the forewings beautifully pale lilac.

ab. incipiens V. de Meillon. Ent. Soc. (South Africa) 1963. 63. fig.

The gamma spot is lacking.

The figure shows only a thin white line on the 1st forewing and a thin line on the right wing, other is a slight silver "W". This is similar to ab. incipiens Cockayne which has the gamma mark reduced to only one dot but since the description says the gamma mark is lacking it must be taken as an extreme.

Oct. 298.
p. 1.

Plusia Schs.

- interrogationis Linn. Syst. Nat. 1758. Pl. L. p. 513.
- = aemula Fabricius. Mantissa Ins. 1787. 2. p. 162.
- = aurosignata Donovan. Brit. Ins. 1808. 13. p. 43. pl. 53. 2. 1.
- = borealis Reuter. Acta Faun. Fenn. 1893. 9. p. 57.

aberrational forms etc.

interrogationis Linn. typical form --- the ground colour grey marbled with purple-brown, the metallic mark deemed to be separated into two parts, although this is not stated by Linnaeus, it is the most variable character.

ab. rosea Tutt. Brit. Insect. 1894. 4. p. 36.

"Some of our British specimens are beautifully tinted with rose colour."

ab. ignifera Warren. Seitz. 1913. 3. p. 346. pl. 64 row c.

The usual silvery mark pale yellow and shaped like a tadpole, with deep fiery-red colour before the postmedian line, beyond the antemedian, and along the submedian fold.

We have the Type in the Tring Museum, this shows a patch of fiery-red mostly on the inner side of the postmedian line on the inner margin, much as the lighter red patch in *P. pulchrina* and some well-marked gamma.

ab. aureoviridis Wagner. Zts. Ost. Ent. Ver. 1926. 11. p. 26.

On the forewings the whole costal part as far as the gamma mark, as also the basal and marginal fields, are thickly covered with golden-green scales which gives a quite different appearance. There only remains a small part of the normal ground colour below the gamma mark.

ab. orbata Warren. Seitz. 1913. 3. p. 346. pl. 64 row b.

= simplex Strand. Arch. Naturg. (1916) 1917. 82. A 2. p. 48.

The gamma mark in the form of a simple loop with a fine silvery edge, not followed by a spot on its outer edge. The Type is at Tring and shows only the upper part of the gamma mark in fine etching.

Strand's simplex had the forewing without the spot, or ring, beyond the stigma. The form corresponds with *P. iota* ab. incipiens Lempke.

ab. flammifera Huene. Berl. Ent. Z. 1901. 46. p. 313.

= confluens Strand. Arch. Naturg. (1916) 1917. 82. A 2. p. 48.

The two parts of the gamma mark united, forming a flame shaped character.

This corresponds to the ab. percontationis Treitschke of *P. iota*.

Strand's confluens had the small spot united with the main part, which he calls the stigma.

ab. magnifica Rognov. Ent. Rundsch. 1935. 53. p. 22. fig. p. 21. f. 9.

The silver mark of the forewing extraordinarily large and extended.

ab. annulata Strand. Arch. Naturg. (1916) 1917. 82. A 2. p. 47.

Forewing with a small ring which unites with the middle of the outer edge of the main part, which Strand calls the stigma.

This is similar to Strand's confluens except that it is a ring instead of a solid spot.

Not. 298.
p. 2.

interrogationis Linn. continued.

a b. aureomaculata Vorbrodt. Schmett. Schweiz. 1912. 1. p. 426.

The metallic mark of the forewing, instead of silver-white, is of a beautiful shining gold.

Doct. 299.
p. 1.

Abrostola Gers.

trigemina Verneberg. Beitr. Schmett. 1864. 2. p. 49. Ber. Eur. Schmett.
= *triplasia* auct. (nec. Linnaeus), pl. 169. fig. 1.

This species has been called *triplasia* Linn. for many years. Tams states that *triplasia* Linn. is actually the species long known as *tripartita* Huftn., the lighter insect. See next species.

aberrational forms etc.

trigemina Verneberg. typical form -- forewings dark brownish-black with paler basal area and anal angle patch.

ab. *monotona* Lemke. Tijdschr. Ent. (1946) 1949. 90. p. 122.
The paler colour on the forewings fails, the rest normal.

ab. *juncta* Lemke. Tijdschr. Ent. (1946) 1949. 90. p. 122. (descript. vol. 82. p. 197.)
The orbicular and reniform join but remain distinct.

ab. *semiconfluens* Lemke. Tijdschr. Ent. (1946) 1949. 90. p. 122. (Descr. vol. 82. p. 197.)
Instead of joining up, the stigmata are united by a double line.

Noct. 300.
n.l.

Abrostola Ochs.

- triplasia* Linn. Syst. Nat. 1758. Ed. 8. p. 517.
- = *tripartita* Hufn. Berl. Mag. 1766. 3. n. 414.
- = *triplasia* Hubner. Samml. Eur. Schm. 1800-03. 1. 55. n. 269.
- = *urticae* Hubner. Samml. Eur. Schm. 1814-17. 1. 157. n. 325.

This species until recently has been called tripartita Hufn. Faus states that it is triplasia Linn., the name by which the preceding species has long been known.

aberrational forms etc.

triplasia Linn. typical form -- forewings blackish-brown with lighter basal area and anal angle patch which in this species are grey, not fawn, as in the preceding. The figure of Hubner's *urticae* does not show this pale area to any degree but the artists of those days were not exact to such a degree, so it is treated as a synonym of the type form.

ab. *plumbea* Cockayne. Ent. Rec. 1947. 59. n. 15.

Forewing unicolorous dark leaden grey, without any pale markings, but with the usual dark markings visible; fringes considerably darker than usual. Hindwing with basal area nearly as dark as the marginal area. Thorax dark leaden grey with no pale scales, but with the usual rust coloured scales present, abdomen dark grey with the hairs at the base leaden grey instead of pale. Transitional forms occur which show a restricted amount of pale marking.

ab. *juncta* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 123. (descript. vol. 82. p. 197)
The orbicular and reniform join up but remain distinct.

ab. *semiconfluens* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 123. (descript. vol. 82. p. 197)
Instead of joining up the stigmata are united by a double line.

Oct. 301.

Episema Lichs.

n.l.

caeruleocephala Linn. Syst. Nat. 1758. 3. 5. p. 300. (Ann. Mus. 1746. 1. 473.)

caeruleocephala Linn. typical form -- forewings grey with the stigmata united.

aberrational forms etc.

ab. *binartita* Strand. Arch. Math. Naturv. 1903. 25. no. 9. p. 12.

= *separata* Schultz. Soc. Ent. 1907. 28. p. 51.

The two stigmata of the forewing which usually run together are distinctly separate.

ab. *orbimaculata* Strand. Arch. Math. Naturv. 1903. 25. no. 9. p. 13.

The two stigmata joined together as usual but in addition, towards the base, between them and the first transverse line, there is a third stigma, round and small, coloured as the others and sharply defined.

ab. *coalita* Meves. Ent. Tidskr. 1914. 35. p. 14.

= *confluens* Dammer. Ent. Z. 1922. 35. p. 100.

The two stigmata so fused together that one large spot is formed with two grey kernels. (German translation p. 41).

Dammer's *confluens* has the inner edges of the two stigmata so united that one very large spot is formed.

ab. *protensa* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 124.

The orbicular stigma lengthened and touching the inner line.

ab. *obsoleta* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 124.

The reniform stigma almost or completely disappeared.

ab. *funesta* Cockayne. Ent. Rec. 1951. 63. p. 164. fig. Barrett pl. 115. f. c.

The usually conspicuous stigmata on the forewing are the same colour as the rest of the wing and therefore invisible.

The type specimens are in the B.C.M. collection at Tring and show a thin light spot on each wing, all that remains of the reniform.

ab. *capnodes* Dannehl. Ent. Z. 1925. 39. p. 152.

Forewings with grey-blackish ground colour, without the bluish-violet tinge, and with an increase of the blackish tone over the stigmata so that the outer one, often both, appear sooted over. In extremes the whole specimen gives the impression of being unicolorously black-grey, only slightly lightened on the costa in place of the stigmata. Hindwings considerably darker than in the typical form.

Very close to the preceding *funesta* Cockayne, especially the extreme form mentioned. The hindwings however are also darkened, which is not the case with *funesta*. The name would apply to specimens in which the stigmata are sooted over but are still apparent.

ab. *infumata* Schwingenschuss. Verh. zool.-bot. Ges. Wien. 1918. 68. p. (190).

The fore and hindwings, thorax and abdomen, darkened to black-brown, and the usually white-grey stigmata yellow.

ab.clausa Lempke. . Tijdschr.Ent.(1946) 1949.90.p.124. (Manuscript.vol. 2. n.177)
The first and second transverse lines of the forewing join at the inner margin.

ab.nigrofasciata Hackray. Lambillionea 1933.33.p.54.pl.8 f.6.
The postmedian line of the forewing widened to form a very black band which in its upper part actually reaches the reniform. The ground colour lighter than normal.
The figure shows the postmedian line usually very fine and not touching the reniform, widened, especially in its upper half, and intensely black, travelling from the costa to the inner margin. The upper part is so widened as to reach the reniform stigma.

ab.medionigra van Wisselingh. (nom. nov. pro nigrofasciata v. Wis. nec Hackr.)
Ent. Ber. (Amst.) 1966:26:p.183.
=nigrofasciata van Wisselingh. (nom. praeoc. Hackray) Ent. Ber. (Amst.) 1966:26:p.154
Thorax and abdomen black, collar dark brownish-grey; forewings with black central area and normal light stigmata, basal area and submarginal ["watered"] band dark brownish-grey, marginal area blackish. Hindwings dark grey.
The description is from the Dutch, as the English translation is slightly incorrect.
Van Wisselingh himself re-named nigrofasciata, since Peerdeman pointed out to him that the name had already been used by Hackray in 1933 for a completely different form.--see above for Hackray's nigrofasciata.

Noct. 302.

Acontia Schs.

p. 1.

luctuosa Schiff. *Sien Verz.* 1775. p. 90.

aberrational forms etc.

luctuosa Schiff. typical form -- the spots white on a black ground.

ab. *ochracea* Tutt. *Brit. Noct.* 1892. 4. p. 2.

The large characteristic spot on the forewings ochreous instead of white.

ab. *rosinans* Oberthur (Culot). *Noct.* 1913-17. 2. p. 144.

The brown tone, which is very dark in the type form, becomes light reddish-brown.

ab. *lineosa* Spuler. *Schmett. Eur.* 1907. 1. p. 287.

The dark marginal band of the forewings sometimes with a row of antemarginal whitish spots; on its inner side bordered by a deep black fine line, separated by yellow.

The description is somewhat puzzling, there seems to be no yellow in the marginal band. Spuler calls the form the "Many Lined", it is presumably characterized by the row of white antemarginal spots which, normally, is not complete.

ab. *obscurosa* Spuler. *Schmett. Eur.* 1907. 1. p. 287.

= *reducta* Cockayne. *Ent. Rec.* 1951. 63. p. 164.

The whitish spot of the forewing and the white hindwing band very greatly reduced.

Cockayne's *reducta* can hardly be separated; it has the white central spot on the forewing much reduced and separated from the costa, and the white areas of the hindwing reduced.

ab. *angustifascia* Warren. *Seitz* 1913. 3. p. 286. pl. 52. row K.

On the hindwings the white median band is greatly restricted and sometimes interrupted.

ab. *latefascia* Schawerla. *Ent. Rundsch.* 1938. 55. p. 554.

The opposite to the preceding *angustifascia* Warren. The white middle band of the hindwing occupies more than half of the wing; the black at the base and that of the outer margin reduced.

ab. *pallidior* Silbernagel. *Z. f. Ent. Ges.* 1944. 29. p. 153.

The whole forewing surface light yellow-brown, also the broad dark marginal band of the hindwing is lighter.

Very near ab. *rosinans* Oberthur in which the forewing is light reddish-brown.

Noct. 303.
p. 1.

Lygophila Billberg.

pastinum Treitschke. *Schnett. Eur.* 1826. 3. (3). 1. 27.
= *lusoria* Hubner. (nec. Linn.) *Samml. Eur.* Schnett. 1826-27. 3. 1. 128. 17.
(nec. *Lygophila*)

aberrational forms etc.

pastinum Treitschke -- typical form--forewings greyish

ab. *pallida* Tutt. *Brit. Noct.* 1892. 4. p. 43.

= *decolor* Warren. *Seitz.* 1913. 3. p. 68. row 7.

Forewings of a whiter grey than the type form, the transverse bands or fasciae obsolete, especially the brown area between the subterminal and angulated lines; the dark scales which give the type a more mottled appearance, very few in number. A much paler form.

Warren's *decolor* was "much paler without any brown tinge."

ab. *lulicra* Haworth. *Lep. Brit.* 1809. p. 259.

The single specimen mentioned by Haworth was a misidentification of the Continental *lulicra* Hubner. The description says the forewings are fuscous instead of grey, with two obsolescent stripes towards the apex. Tutt's remarks in *Brit. Noct.* IV. (he says that the form would appear to be those specimens which have the outer margin strongly browned) are somewhat puzzling, there is nothing to suggest this in Haworth's description. Lempke has copied Tutt and gives *lulicra* as an aberration with the margins darkened. If the name is used at all, it should be for specimens which are more fuscous than the greyish typical form, the fuscous not being confined to the margins only.

ab. *filutior* Staudinger. *Iris* 1892. 5. p. 57-.

Much lighter than typical, the brown tint almost completely absent. The reniform crescent mark much narrower, the two black spots at its lower end more or less absent; the orbicular in some specimens completely absent. Very similar to *pallida* Tutt but with reduced marking of the stigmata.

ab. *impuncta* Lempke. *Tijdschr. Ent.* (1946) 1949. 90. p. 126.

The black point in the place of the orbicular stigma fails.

ab. *obscura* Cockayne. *Ent. rec.* 1951. 63. p. 164.

The ground colour of the forewing much darker than usual and almost the same colour as the subterminal band, which is also unusually dark. The hind wing is also darker than usual.

ab. *elongata*

ab. ? *astragali* Kambur (Herrich Schaffer). *Syst. Bearb.* 1847. 2. p. 417. pl. 54 f. 269. Possibly a race confined to Southern Spain. The description says the forewings show much thicker, large, dark wavy striae which cause the terminal small black points to become lost. Founded on a single specimen so may well be merely an aberration. The coloured figure shows the ground colour very whitish-grey, covered with numerous tiny flecks and striae, and without the brown marginal band of the typical form, all that remains of this band is a triangle near the apex.

Noct. 304. .
p.1.

Lygephila Billb.

cracca Schiff. *Mon Verm.* 1775. p. 94.

aberrational forms etc.

ab. immaculata Staudinger. *Cat. III*, 1901. n. 152.

The reniform without the black marking, only the shadings showing.

ab. plumbea Bankes. *Ent. Rec.* 1906. 18. p. 68.

Forewings bluish-grey, more or less mixed with chocolate-brown, the terminal third much obscured by it. The costal black spots and triangular mark are darker than typical, the reniform chocolate-brown partly black-margined, the orbicular varies from a black point to a minute white dot. The hindwings brownish-grey instead of pale greyish-brown. The form is conspicuously darker than the typical form.

ab. brunnea Warren. Seitz, 1913. 3. p. 374. pl. 68 row H.

Instead of the typical grey ground, it is brown, sometimes with a rufous tinge.

ab. nerstrigata Rebel. *Ann. naturh. Hofmus. Wien*, 1911. 25. p. 345.

More grey than brownish with very prominent transverse stripes.
Description from Seitz, I have not seen the original.

Doct. 305. *livula* Guenee.
p.1.

sericealis Scop. Ent. Carn. 1763. n. 44.
= *albolividalis* Schille. Polsk. Pismo Ent. 1726. 5. n. 73.

aberrational forms etc.

sericealis Scop. -- forewings yellowish-white to light yellow

ab. lutea Lemke. Tijdschr. Ent. (1946) 1949. 90. n. 129.
Forewings unicolorously clear yellow with dark central dot only.

ab. cyrossa Lemke. Tijdschr. Ent. (1946) 1949. 90. n. 129.
Forewings whitish-yellow to pale yellow with dark central dot and two distinct transverse lines.

ab. limbata Buler. Schmett. Eur. 1907. 1. p. 254.
Forewings with the margins, from the outer transverse line, darkened to grey-brown, also showing above the reniform, obliquely to the inner margin, a dark streak. Hindwings with the margins also broadly darkened grey.

ab. laetior Buler. Schmett. Eur. (1905) 1949. 90. n. 234.
Forewings more intensive brown-yellow.

ab. ochrea Dufrane. Lambillion 1932. 32. n. 84.
Forewings dark yellow-ochre, not pale yellow as the type; hindwings greyish-yellow.

ab. oenipontana Hellweger. Verk. zool.-bot. ges. Wien. 1902. 52. p. 711.
= *brunnea* Lambillion. Cat. Lep. Belg. 1904. p. 139.
Forewings without any trace of the normal yellow tint. The ground colour is greyish bone-white, towards the outer margin becoming very strongly dusted with brown-grey scales, in extreme specimens almost unicolorous dark smoky-brown, with a violet-grey silky sheen.
Lambillion's *brunnea* was of a dark grey-brownish tint.

ab. signata Lemke. Tijdschr. Ent. (1946) 1949. 90. n. 130.
Forewings with a sharp second line, hindwings with distinct transverse line.

Doct. 506.
p.1.

Scoliopteryx Gornau.

libatrix Linn. Syst. Nat. Ed. I. 1758. n. 507.

aberrational forms etc.

ab. suffusa Tutt. Brit. Doct. 1892. 3. p. 97.

Forewings dull greyish-fuscous with no red on the outer margin.

ab. pallidior Stuler. Schmiedt. Eur. 1907. 1. p. 297.

"Whitish-grey-looking specimens."

This is all the description says. It presumably means that the greyish look overrides the reddish.

ab. pallida Stuler. Schmiedt. Eur. 1907. 1. p. 297.

Paler, more yellowish specimens.

Described as a race from Turkestan but Draudt says the form occurs elsewhere. We have specimens from Turkestan which show that the type form also occurs with the aberration, so it is not racial.

ab. impuncta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 125.

The white central dot on the forewings fails.

ab. approximata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 126.

The inner and outer lines of the forewings stand close together.

ab. besti Osthelder. Schmiedt. Sudbayera. 1927. p. 349.

Forewing unicolorous dark violet-grey with a reddish hue; the whitish markings strongly reduced and grey suffused. The two transverse lines strongly drawn towards each other and joining on the inner margin.

The latter character would seem to be the main one, since it must be very rare.

ab. unilinea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 126.

The inner transverse line of the forewing fails completely.

Oct. 307.
p. 1.

Phytonetra Hubner.

- virilaria Clerck. Icones. 1759. 1. 1. f. 14.
- = laccata Scopoli. Ent. Carn. 1763. 1. 26.
- = aenea Hubner. Beitrage Schnett. 1786-89. 1. (3). p. 10. f. 1. 1.
- = olivacea Vieveg. Tab. Venz. 1789. 2. 85.
- = aenea (latruncula) Lpoc. Bur. Schnett. 1791. 1(6). p. 377. f. 1. 16. f. 1.
- = purpurata Fabricius. Ent. Syst. 1794. 3. (1). f. 1.

Aberrational forms etc.

virilaria Clerck. typical form -- the ground colour olive green, the figure showing a wide purple marginal band and two narrower ones. The figure of aeneae Hubner in his Beitrage is also olive green. Most authors seem to have missed the Beitrage reference and give Samml. Bur. Schnett. fig. 350, which is coloured much darker and treated by Tutt, Warren, Lempke etc as an aberration. It has stood since aeneae Hubner is the one figured in the Beitrage and is a synonym of virilaria Clerck. Hubner figures three different forms, all called aeneae -- the first in the Beitrage, the second in Samml. Bur. Schnett. fig. 350, the third in the same work fig. 654.

ab. aeneae Havorth (nec. Hubner. 1789) Lep. Brit. 1809. 5. 226.

The ground colour fuscous instead of olive-green. The coloured figure 350 in Hubner's Samml. Bur. Schnett. agrees with this description and Havorth cites it but Hubner's first figure of aeneae in Beitrage of 1789 is the same as Clerck's virilaria and so stands as the true aeneae Hubner. The darkened figure in the Samml. is merely the work of the artist and varies in different copies.

ab. cincta Freitschke. Schnett. Bur. 1826. 5. (3). p. 274. (Hbn. Samml. Bur. Schn. fig. 654) This may or may not be the same as ab. fusca Tutt. The author merely says the forewings are often dull and brown-grey as in Hubner's figure 634 (an almost certain error for 654 which is called aeneae, 634 being dasychira). Fig. 654 shows the ground colour greyish-brown with the normal purple bands replaced by dark, almost blackish, brown, especially the median one, which is wider and darker than the marginal ones. This median line is continued on the hindwings to form a rough circle, the probable reason for the name "cincta". It is separated here because of this striking median line which, however, may be the exaggeration on the part of the artist.

ab. fusca Tutt. Brit. Noct. 1892. 4. p. 60.

= modesta Caradja. Iris 1896. 9. p. 50.

Totally fuscous, without the purple bands.

Caradja's modesta wholly unicolorous dark grey brown to olive-brown without any trace of the purple bands, in their place are narrow, dark, brown or black-grey, stripes.

ab. ljunglahli Nordstrom. Svenska Fjärilar. 1940. p. 213. pl. 32. f. 2c.

The purple bands replaced by dark grey-green.

The coloured figure shows the ground colour light grey-green with darker bands.

ab. suffusa Tutt. Brit. Noct. 1892. 4. p. 60.

Wings blackish-fuscous the margins somewhat darker.

ab. refucta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 118.

Forewings with sharply contrasting purple central band, the one before the outer margin fails.

ab. seminurpurea Kieffer. Ent. 4. 1941. 55. p. 159.

Ground colour dark olive-grey, a transverse band uninterrupted purple-red as far as the margin, the fringes also purple-red.

ab. hoffmanni Stauder. Iris. 1915. 29. p. 30.

Ground colour loam or clay-yellow, the outer area from the middle band purple-red, with no interruption of ground colour. The colour of the hindwings also lighter than in typical specimens.

Very similar to the preceding but of a lighter ground.

ab. faecata Stauder. Deutsch. Ent. 2. 1924. p. 28.

Ground colour unicolorous dirty pale loam, or clay, colour; the bands completely or almost completely disappeared.

Apparently an extreme form of ab. ljunghlahli Forstrom.

ab. purpurina Vorbrodt. Mitt. Schweiz. Ent. Ges. 1917. 11. 1. 166.

The red colouring covers the wing almost to the base, to form a broad uninterrupted band.

Noct. 308. Parascotia Wubner.
p. 1.

Fuliginaria Linn. Faun. Suec. 1761. p. 527.
= carbonaria Esper. Eur. Schmett. 1794? 5. p. 12. pl. 32 figs. 1 & 2.

aberrational forms etc.

Fuliginaria Linn. typical form -- wings black, with white stripes formed of spots.

ab. variegata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 127.
The marginal area of all wings yellow-grey, with dark lines along the nervures.

ab. flava Homuzaki.
Warren's description in Seitz says the male has quite pale ochreous wings with two blackish fasciae in the middle and almost obsolete terminal spots; the female is pale yellowish-brown with darker dusting, especially in the basal and terminal areas.

ab. ? magna Dioszeghy. Verh. Siebenbur. Ver. Naturw. 1950. 79-80. p. 241. fig.
Very large examples measuring 28 mm. Forewings yellowish-white, densely dusted at costa and sparsely dusted from base to posterior transverse line, marginal area to subterminal shade devoid of dusting, except for the veins and the margin itself. Hindwings coarsely and densely dusted with very distinct marginal lines and distinctly chequered fringes.
This is Draudt's description in Seitz, I have not seen the original.

crassalis Fabricius. Mantissa Ins. 1787.2. p. 217.
= fontis Thunberg. Mus. Naturalium. 1788.6. p. 72. fig. 5.
= achatalis Hubner. Beitr. Schmett. 1790.2 (1). p. 13. pl. 2. f. I.

aberrational forms etc.

crassalis Fabr. typical form --- the male with large costal mark dark brown, the rest of the wing greyish, the female with lighter mark and lighter margins.

ab. terriculalis Hubner. Samml. Eur. Schmett. 1811-13. Pyralides pl. 25 f. 163.
Almost entirely black-brown except for the outline of the large costal mark which is a fine yellow transverse line, and a row of white submarginal spots which form a second line, the margins otherwise are completely darkened. Hindwings also very much darker than typical.

ab. brunnea Osthelder. Schmett. Sudbayern. 1927. p. 369. pl. 16 figs. 16-17.
Forewing without the grey-white dusting in the marginal field, the ground colour reddish-brown to dark olive colour. Resembles the preceding terriculalis but differs in the ground colour.
A superfluous name in my opinion, in one copy of Hubner's work terriculalis the ground colour is dark brown but in the other, much lighter, in fact reddish-brown, the colour of Osthelder's brunnea.

ab. obliterated Osthelder. Schmett. Sudbayern. 1927. p. 370. pl. 16 f. 18-19.
The outer transverse line, which normally borders the large costal mark, is completely absent. This line is normally pale and quite distinct although outwardly bordered with white; in both figures by Osthelder much of this white is absent as in terriculalis, thereby showing the absence of the postmedian much more pronouncedly.

achatalis Hubner. Beitr. Schmett. 1790.2. p. 13. pl. 2 f. I.
This is placed as a synonym of the type form, see above, since the coloured figure cannot be separated on any particular character. It is true the artist has made the postmedian transverse line too white and the margins somewhat too dark, items which cannot be trusted in these older works. Hubner states that it is a female but by the pattern it is almost certainly a male. In his later work, Samml. Eur. Schmett. Pyralides pl. 2 f. 12, Hubner figures achatalis again, a completely different looking insect, obviously a female, with the margins white as normal females, but with a very heavy transverse row of black submarginal spots, another obvious exaggeration. It would seem that the achatalis of the Beitrage and the achatalis of the Samml. Eur. Schmett. are the male and female of the same thing, and fall as a synonym of crassalis. Lomke chooses the second figure on which to base his description and says the form is an aberration which is lighter than typical females.

Oct, 312. . Hypena Schrank.
p. 1.

- proboscidalis Linn. Syst. Nat. Ed. 12. 1758. p. 532.
- = ensalis Fabricius. Ent. Syst. 1794. 3(2). p. 221.
- = proboscideus Fabricius. Ent. Syst. Suppl. 1798. p. 165. no. 7.
- = ensatus Fabricius. Ent. Syst. Suppl. 1798. p. 465. no. 8.
- = proboscidatus Haworth. Lep. Brit. 1809. p. 565.

aberrational forms etc.

proboscidalis Linn. typical form -- ground colour grayish to dark grayish, with ferruginous stripes.

ab. brunnea Tutt. Brit. Oct. 1892. 4. p. 64.

The brighter and more ochreous tinted specimens as distinct from our darker specimens, which are the typical form.

ab. infuscata Spuler. Schmiedt. Eur. 1908. 1. p. 330.

The hindwings, as also the forewings, are dusted over with dark brown-grey. This presumably means that the hindwings would still be somewhat lighter than the forewings, if each were dusted over the result would be a darkened specimen but still of different shades on fore and hindwings.

ab. purpurascens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 139.

The ground colour of the forewings purplish-brown, the markings normal.

ab. bilineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 139.

The subterminal line fails; ground colour brown-grey.

ab. obsoleta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 139.

All the transverse lines obsolete; the ground colour brown-grey.

ab. brunnea-bilineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 139.

The subterminal line fails as in ab. bilineata but the ground colour is clear brownish.

ab. signata Spuler. Schmiedt. Eur. 1908. 1. p. 330.

The white spots on the subterminal line, mostly only present as traces, developed as larger triangular or cuneate spots, up to five in number.

gen. aest. parva Hannemann. Int. Ent. 1. 1917. 10. p. 122.

Summer brood, about a third smaller than the Spring brood (typical).

Noct. 311.
n.l.

Hyaena Schrank.

♀ rostralis Linn. Syst. Nat. Ed. 10. 1758. p. 35. (Linn. Mus. . . .)
= ♀ variegata Tutt. Brit. Noct. 1892. 4. p. 65.

= ♂ palpalis Fabricius. Mantissa Ins. 1787. . . . 17.

aberrational forms etc.

♀ rostralis Linn. ♀. typical form -- dark grey to brownish-grey, with variegated markings, the female of the species. The male is palpalis Fabricius.

♂ palpalis Fabricius. ♂ of rostralis Linn. --- dark grey to dark brown-grey, presumably unicolorous. The description merely says "alae griseis, posticis margine crassiori albo", the latter apparently refers to the underside which is whitish on the margins.

Male forms.

♂ ab. ochrea Tutt. Brit. Noct. 1892. 4. p. 64.
Unicolorous, ochreous or greyish-ochreous.

♂ ab. unicolor Tutt. Brit. Noct. 1892. 4. p. 64.
Unicolorous, pale greyish

♂ ab. brunnea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 141.
Unicolorous, clear brownish without grey tint.

♂ ab. spectans Dannehl. Ent. 1. 1926. 40. p. 399.
Darker than ab. unicolor Tutt and showing a strongly white-surrounded orbicular stigma. These white circles give the impression of eyes, hence the name "spectans".

♂ ab. dimidialis Dannehl. Ent. 1. 1923. 47. p. 32.
Forewings from the base to the hardly visible pale band, approximately half of the wing, is dark, but the outer half strongly lightened. The submarginal is hardly noticeable, in appearance they are dull unicolorous somewhat resembling ab. ochrea Tutt in colour.

Female forms.

♀ ab. ochrea-variegata Tutt. Brit. Noct. 1892. 4. p. 64.
Ochreous or greyish-ochreous, with distinct markings. Variegated form.

♀ ab. varia Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 141.
= rostralis Tutt (nec. Linn.) Brit. Noct. 1892. 4. p. 64.
Forewings light greyish or pale brown-grey, mottled. Variegated form.
Lempke renames the form described by Tutt as the typical one. The type is not light greyish but dark grey, Linnaeus amplified his original description in Fam. Succ. Ed. 2. p. 350 and says "obscurae griseo-centes", Tutt's diagnosis was therefore incorrect.

Female forms- continued.

? ab. brunea-variegata Lempke. Hilschr. Ent. (1946) 1949. 90. p. 141.
Forewings clear brownish, without grey tint, mottled. Variegated form.

Forms occurring in both male and female.

ab. vittatus Haworth. Lep. Brit. 1809. p. 367.

= vittata-variegata Lempke. Hilschr. Ent. (1946) 1949. 90. p. 141.

Forewings light grey with fuscous cloudings, with a broad cream costal stripe or band. This travels from the base to the apex.

Lempke has named the female form which would seem to be superfluous. It is made a synonym here but can be used for females if so desired.

ab. radiatalis Hubner. Samml. Eur. Schm. 1796. Pyralides. pl. 10. f. 134.

= radiatalis-variegata Lempke. Hilschr. Ent. (1946) 1949. 90. p. 142.

The figure shows the character of the preceding, a broad light brownish costal streak or band, plus the blackening of the veins on a paler area outwards from the middle of the wing, which give the effect of rays. The figure is that of a male.

Lempke has named the same form in the female which I consider superfluous, it can be used if so desired but is made a synonym here.

toct. 312.
p. 1.

Schrankia Hubner.

taenialis Hubner. Samml. Eur. Schmett. 1800-09. Pyral. 1. 1. 23. 2. 1. 1.
= albistrigatis Haworth. Lep. Brit. 1809. n. 368.
= albistrigatus Stephens. Ill. Haust. 1834. 4. p. 20.
= acuminalis Herrich-Schäffer. Deutsch. Ins. 1838. pt. 163. fig. 1.
= albistrigalis Guenee. Wist. Nat. Ins. 1854. Pyral. 2. p. 42.

aberrational forms etc.

ab. obsoleta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 144.

The transverse lines obsolete.

This is Lempke's translation into English, the Dutch however reads "the transverse lines very weak."

Oct. 313.
p. 1.

Schrankia Hubner.

costaestrigalis Stephens. Ill. Haust. 1834. 4. p. 27.
= *acuminalis* Herrich-Schaffer. Syst. Bearb. 1845. 2. p. 42. 1. 120.
(1).

aberrational forms etc.

costaestrigalis Stephens --typical form -- forewings greyish-brown, with a somewhat triangular fuscous patch towards the apex of the costa.

ab. *monotona* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 144.
Forewings unicolorously brownish, without the dark costal blotch, the two transverse lines distinct, as a rule bordered by yellow-brown.

ab. *unicolor* Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 144.
Forewings unicolorously brownish, without the transverse lines.

Noct. 314.
p.1.

Hypenodes Doubleday.

turfosalis Loche. Breslauer Ent. 4.1850.n1.5.p.17.
= humilalis Doubleday. Zoologist 1850.8.Append.p.CV.

aberrational forms etc.

turfosalis Loche. - typical form -- forewings light brown-grey, with distinct transverse lines.

ab. bicolor Lempke. Tijdschr. Ent. (1946) 1949.90.p.145.
The basal half of the forewings dark, the outer half pale.

ab. obscura Lempke. Tijdschr. Ent. (1946) 1949.90.p.145.
Forewings unicolorously dark grey, with the normal transverse lines.

Noct. 315.
n.1.

Lanclognatha Lederer.

- tarsipennalis Treitschke. Schmiedt. Eur. 1855. 10 (3). p. 2.
- = tarsicrinalis Hubner. (nec. Knoch.) Samml. Eur. Schmiedt. 1794. p. 5.
- = denticornalis Vocke. Breslauer Ent. 1. 1850. pl. 4 f. 15.
- = kuverti Fuchs. Stett. Ent. 2. 1875. p. 59.
- = variabilis Fuchs. Stett. Ent. 2. 1875. p. 59.

aberrational forms etc.

tarsipennalis Treitschke -- the ground colour brownish to brown-gray, with three transverse lines.

ab. bidentalis Heinemann. Schmiedt. Deutschl. & Schweiz. 1859. 1. p. 609.

Lempke restricts this form (which differs only very slightly in colour from the typical) to the only definite character given in the description. This is the outer or subterminal line of the hindwings, which is not angled or hooked as in the typical form, but rounded. See Lempke, Tijdschr. Ent. vol. 90. p. 134.

ab. lineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 134.

Forewings with the inner and outer lines absent. In his description in Dutch Lempke says the first and second lines.

ab. obscura Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 134.

Forewings dark grey-brown, not brownish to brown-gray as in the typical form.

ab. paradoxa Cockayne. Ent. Rec. 1951. 63. p. 164.

The areas on the forewing between the basal and antemedian lines, and between the postmedian and termen, are considerably darker than the median area. The outer half of the hindwing from the postmedian line to the margin is darkened.

ge. II. autumnalis Dannchl. Ent. 2. 1933. 47. p. 32.

Late summer brood, noticeably smaller than the first generation.

noct. 316.
p.1.

Lanclognatha Lederer.

memoralis Fabricius. *Syst. Ent.* 1775. p. 621.
= *grisealis* Schiff. *Fian Ver.* 1775. p. 120.

aberrational forms etc.

memoralis Fabr. (*grisealis* Schiff) --- typical form - forewings grey-brown with three transverse lines.

ab. *clara* Lempke. *Tijdschr. Ent.* (1946) 1949. 90. p. 135.

Forewings paler, more yellow-brown. Hindwings also paler than in the typical form.

ab. *approxinata* Cockayne. *Ent. Rec.* 1951. 63. p. 164. (Fig. *Entom.* vol. 44. p. 1.)

On the forewings the postmedian (second) line is displaced towards the antemedian and united to it along the costa. The postmedian line touches the discoidal spot instead of running some distance external to it. All the lines are thicker than usual.

Doct. 317.
p. 1.

Maclognatha Lederer.

cribrunalis Hubner. Vogel and Schmett. 1773. pl. 1.
= *cribralis* Hubner. Savil. Eur. Schmett. 1796. Pyral. pl. 1. f. .

aberrational forms etc.

cribrunalis Hbn. --- typical form --- forewings bone-white, with two rows of small black spots in place of the postmedian and subterminal lines.

ab. nigrostriata Urbahn. Stett. Ent. 1. 1939. 100. p. 655.

The black discoidal spot of the forewings united with nearest spot in the postmedian row, by a black streak.

ab. molestalis Boldt. Lep. Rundsch. 1928. 2. p. 6.

In the forewing the discoidal spot is present but only feeble traces remain of the two transverse rows of spots.

ab. obsoleta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 135.

Forewings without the discoidal spot and the transverse rows of spots obsolete. In his Dutch description Lempke says the spots are "very weak", not obsolete.

ab. basilineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 135.

On the forewings besides the two rows of striped spots, there is also a zigzag line at the base (an antemedian).

ab. tangens Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 135.

Forewings as in the preceding *basilineata*, with an antemedian row of spots level with but the postmedian line projects inwards above the inner margin to touch the lowest projection of the antemedian zigzag line.

This means that the two lines join above the inner margin and then part again before reaching the inner margin.

ab. reducta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 135.

The row of short stripe-spots (in the place of the postmedian row), is absent.

ab. grisescons Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 136.

The ground colour of the forewings not bone-white, but darker, greyish in colour. Hindwings also darkened, especially along the margin.

Doct. 318.
p. 1.

Paracolax Hubner.

Derivalis Hubner. ~~Samml.~~ Eur. Schmett. 1796. ~~Anal.~~ 1. 3. 1. 1.

aberrational forms etc.

Derivalis Hubner. - typical form -- forewings yellow-brown with dark dusting, three transverse lines. Hindwings with two transverse lines in the coloured figure the outer one an almost certain exaggeration.

ab. delicata Dannohl. Ent. 1. 1925. 39. p. 12.

Ground colour light yellow-brown, the dark atoms on the forewings completely absent. All the lines very delicate and fine but sharp and distinct.

ab. fangalis Dannohl. Ent. 1. 1925. 39. p. 12.

Dark brown, thickly dusted with black-brown atoms, broadened marking elements, in the outer area a row of dark brown spots often appearing almost like a band.

ab. suffusa Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 136.

The ground colour strongly suffused with dark, therefore more dirty brown, the rest normal. The typical form has a yellow-brown ground, and consequently paler.

ab. latelineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 136.

The transverse lines strikingly enlarged, the rest normal.

ab. signata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 136.

The subterminal line distinct, bordered with dark.

ab. obsolete Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.

The central spot of the forewings obsolete.

ab. unilineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.

The inner line of the forewing fails.

ab. bilineata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.

the transverse lines on the fore and hindwings fail but the central spot is present.

ab. misera Dannohl. Ent. 3. 1926. 40. p. 398.

Small specimens with normal ground colour, or grey-brown dusted, but completely markingless; the transverse lines as well as the discoidal spot have disappeared. Hindwings also unicolorous grey-brown.

ab. alternalis Dannohl. Ent. 3. 1926. 40. p. 398.

On the forewings only the middle field is smoke-brown covered, the basal and outer fields of normal colour, therefore paler. Hindwings with the basal half, and the transverse line, similarly strongly dusted. All markings are strongly abbreviated.

Noct. 318
p. 1.

terivalis Wbn. *continua*.

ab. *virgata* Rocci.

Draudt's description in Seitz says the forewings show a widely shaded transverse stripe, dusky central area, and on the hindwings a dusky basal area. I have not seen the original. The form must be extremely similar to the preceding *alternalis* Dannehl.

ab. *fasciata* Bruun. *Notul. Ent.* .28. p. 112.

ab. *approxinata* Chalmers-Hunt. *Entom.* 1961. 94. n. 283. pl. 7. f. 12.

On the forewings the first and second lines are more heavily marked and placed closer together than normally. On the hindwings the transverse line is placed close enough to the base so as to almost connect with the discoidal spot, and nearly forms a continuation of the first line of the forewing.

ab. *innototalis* Klemensiewicz. *Spraw. Com. Filizogr. Krakow.* 1913. 47. n. 117.

ab. *czernyi* Skala. *Arb. Ent. Abt. Landesmus. Brunn.* 1936. no. 3. p. 71.

Doct. 319.
p. 1.

Herminia Latreille.

barbalis Clerck. Icones 1759. pl. 5. f. 3.
= *pectitalis* Hubner. Samml. Eur. Schmiedt. 1796. Pyral. pl. 17 f. 12.

aberrational forms etc.

barbalis Clerck. typical form --- the figure in Icones shows a light grey insect slightly tinted with pale brown, it is obviously meant to represent the common form which is pale brownish-grey, with three transverse lines.
Hubn. pectitalis in Samml. Eur. Schmiedt. is of a darker grey but, as so often found, the artist exaggerates in some copies and not in others. In our other copy of Hubner's work the insect is much paler so it is quite wrong to base an aberrational name on any of these old works. Lempke treats *pectitalis* as an aberration with the ground colour dark grey to dark brown-grey, here it is made a synonym of the type.

ab. cinerea Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.
Forewings pure pale grey, without yellowish or brownish tint.

ab. signata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.
The transverse lines standing out sharply and contrasting.

ab. demaculata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.
The central spot of the forewing fails, the rest normal.

ab. obsoleta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.
All the markings obsolete. Lempke, by the word "obsolete" in English, must mean obsolescent. In the Dutch description he says the markings "only weakly visible".

ab. approximata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 137.
The inner and outer lines of the forewing are close together. In Dutch Lempke says the "first and second lines."

ab. anomalalis Klemensiewicz. Spraw. Kom. Fizyogr. Krakow. 1912. 1. p. 17.
Drault's description in Seitz says the antemedian transverse line is angled outwards, the apex of the angle touching the discoidal lunule.
I have not seen the original.

Noct. 320.
p.1.

Laspeyria Germar.

flexula Schiff. Wien Verh. 1775. p. 64.
= *flexularia* Hubner. Samml. Eur. Schmett. 1797-99. Fasc. 61. p. 19.

aberrational forms etc.

flexula Schiff. typical form --- ground colour light grey tinted with purplish with the margins, especially at apex, reddish-brown; two transverse yellowish stripes edged on each side with dark grey.

ab. obscura Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 130.

The ground colour of the forewings dark purplish-grey, the hindwings also dark.

ab. grisea Lempke. (girsea in error.) Tijdschr. Ent. (1946) 1949. 90. p. 131.

Ground colour of the forewings grey (mostly rather dark), without reddish or purplish tints.

ab. impuncta Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 131.

The two black points in the centre of the forewings absent.

ab. signata Lempke. Tijdschr. Ent. (1946) 1949. 90. p. 131.

Forewings with whitish subterminal line. Normally this is indistinct.

ab. albina Ehrli. Mitt. Thurg. Nat. Ges. . 20. p. 38.

Draudt's description in Seitz says the forewings are pale yellowish-white with distinct markings. Also the underside is paler with very clear marginal dots.

